TSD File Inventory Index

Date: February 12, 2002

Initial: C. M[illegible]

Facility Name:	Ohio Power Company (Cardinal Plant - One Folder Site)
Facility Identification Number:	OHD 051 139 202

A.1 General Correspondence	√	**B.2 Permit Docket (B.1.2)**	
A.2 Part A / Interim Status	√	.1 Correspondence	
.1 Correspondence	√	.2 All Other Permitting Documents (Not Part of the ARA)	
.2 Notification and Acknowledgment	√	**C.1 Compliance - (Inspection Reports)**	√
.3 Part A Application and Amendments	√	**C.2 Compliance/Enforcement**	√
.4 Financial Insurance (Sudden, Non Sudden)		.1 Land Disposal Restriction Notifications	
.5 Change Under Interim Status Requests		.2 Import/Export Notifications	
.6 Annual and Biennial Reports		**C.3 FOIA Exemptions - Non-Releasable Documents**	
A.3 Groundwater Monitoring	√	**D.1 Corrective Action/Facility Assessment**	
.1 Correspondence	√	.1 RFA Correspondence	
.2 Reports	√	.2 Background Reports, Supporting Docs and Studies	
A.4 Closure/Post Closure	√	.3 State Prelim. Investigation Memos	
.1 Correspondence	√	.4 RFA Reports	
.2 Closure/Post Closure Plans, Certificates, etc	√	**D. 2 Corrective Action/Facility Investigation**	√
A.5 Ambient Air Monitoring		.1 RFI Correspondence	
.1 Correspondence		.2 RFI Workplan	
.2 Reports		.3 RFI Program Reports and Oversight	
B.1 Administrative Record		.4 RFI Draft /Final Report	

Total - 1

.5 RFI QAPP		.7 Lab data, Soil Sampling/Groundwater	
.6 RFI QAPP Correspondence		.8 Progress Reports	
.7 Lab Data, Soil-Sampling/Groundwater	V	**D.5 Corrective Action/Enforcement**	
.8 RFI Progress Reports		.1 Administrative Record 3008(h) Order	
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.10 Interim Measures Workplan and Reports		**D.6 Environmental Indicator Determinations**	
D.3 Corrective Action/Remediation Study		.1 Forms/Checklists	
.1 CMS Correspondence		**E. Boilers and Industrial Furnaces (BIF)**	
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.4 CMS Draft/Final Report		**F Imagery/Special Studies** (Videos, photos, disks, maps, blueprints, drawings, and other special materials.)	
.5 Stabilization		**G.1 Risk Assessment**	
.6 CMS Progress Reports		.1 Human/Ecological Assessment	
.7 Lab Data, Soil-Sampling/Groundwater		.2 Compliance and Enforcement	
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.1 CMI Correspondence		.4 Ecological - Administrative Record	
.2 CMI Workplan		.5 Permitting	
.3 CMI Program Reports and Oversight		.6 Corrective Action Remediation Study	
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.5 CMI QAPP		.8 Endangered Species Act	
.6 CMI Correspondence		.9 Environmental Justice	

Note: Transmittal Letter to Be Included with Reports.
Comments: Documents do not justify individual folder per docket.

41/SE

OEPA Permit No. OIB00009*GD

Application No. OH0012581

Effective Date: September 25, 1990

Expiration Date: October 1, 1992

OHIO ENVIRONMENTAL PROTECTION AGENCY

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq. hereinafter referred to as "the Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

Cardinal Operating Company

is authorized by the Ohio Environmental Protection Agency, hereafter referred to as "Ohio EPA", to discharge from the Cardinal Plant wastewater treatment works located

on Route 7, 3 miles southwest of Brilliant, Wells Township, Ohio, Jefferson County

and discharging to Blockhouse Hollow Run, Riddles Run, Salt Run, and the Ohio River

in accordance with the conditions specified in Parts I, II and III of this permit.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.

Richard L. Shank

Richard L. Shank, Ph.D.
Director

3287P

Form EPA 4428

PART I, A. – INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until no later than 12 months after the effective date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfalls: OIB00009006 and OIB00009008. See PART II, OTHER REQUIREMENTS, for locations of effluent sampling.

EFFLUENT CHARACTERISTIC		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Concentration		Loading			
REPORTING CODE/UNITS	PARAMETER	Other Units (Specify) 30 DAY	DAILY	kg/day 30 DAY	DAILY	Measurement Frequency	Sample Type
00083 Units	Color, Severity(1)	–	–	–	–	Daily	Observation
00530 mg/l	Suspended Solids	12	18	–	–	1/Month	Grab
01330 Units	Odor, Severity(1)	–	–	–	–	Daily	Observation
01350 Units	Turbidity, Severity(1)	–	–	–	–	Daily	Observation
31616 Count /100ml	Fecal Coliform (Summer Only)	200	400	–	–	1/Month	Grab
31648 Count /100ml	E. Coli (Summer Only)	–	–	–	–	1/Month	Grab
50050 MGD	Flow	–	–	–	–	Daily	24 Hr. Total (Estimate)
50060 mg/l	Total Residual Chlorine	0.5	1.5	–	–	2/Month	Grab
80082 mg/l	$CBOD_5$	10	15	–	–	1/Month	Grab

2. The pH (Reporting Code 00400) shall not be less than 6.0 S.U. nor greater than 9.0 S.U. and shall be monitored 1/month by grab sample.

~~3. If the entity uses chlorine for disinfection, the Chlorine Residual (Reporting Code 50060) shall be maintained at a level not to exceed 0.5 mg/l and shall be monitored 2/month by grab sample.~~ JB 3-8-91

(1) See Part II, Item B.

PART I, A. - 1. During th until au

PART I, A – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: OIB00009001. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration		Loading			
REPORTING			Other Units (Specify)		kg/day		Measurement	Sample
CODE/UNITS		PARAMETER	30 DAY	DAILY	30 DAY	DAILY	Frequency	Type
00015	BTU x 10^6/hour	Thermal Load	6340	6340	-	-	Daily	See Part II, J.
50050	MGD	Flow	-	-	-	-	Daily	24 Hr. Total (Estimate)
50060	mg/l	Total Residual Chlorine*	0.2	0.2	-	-	Daily	Grab

* The Total Residual Chlorine limit is the maximum at the outfall allowed at any time. Total Residual Chlorine may not be discharged from any single generating unit for more than two hours per day. Simultaneous multi-unit chlorination is permitted. Analyses are to be performed by amperometric titration and/or Orion Residual Chlorine Electrode during chlorination. Sampling may be done at condenser discharge if appropriate correlations are established. The daily grab samples for Total Residual Chlorine shall represent the maximum concentration discharged during chlorination.

2. The pH (Reporting Code 00400) shall be monitored 1/week by grab sample.

3. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

PART I, A. – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning 12 months after the effective date and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfalls: OIB00009006 and OIB00009008. See Part PART II, OTHER REQUIREMENTS, for locations of effluent sampling.

EFFLUENT CHARACTERISTIC		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Concentration Other Units (Specify)		Loading kg/day			
REPORTING CODE/UNITS	PARAMETER	30 DAY	DAILY	30 DAY	DAILY	Measurement Frequency	Sample Type
00083 Units	Color, Severity(1)	–	–	–	–	Daily	Observation
00530 mg/l	Suspended Solids	12	18	–	–	1/Month	Grab
01330 Units	Odor, Severity(1)	–	–	–	–	Daily	Observation
01350 Units	Turbidity, Severity(1)	–	–	–	–	Daily	Observation
31616 Count /100ml	Fecal Coliform (Summer Only)	–	–	–	–	1/Month	Grab
31648 Count /100ml	E. Coli (Summer Only)	200	400	–	–	1/Month	Grab
50050 MGD	Flow	–	–	–	–	Daily	24 Hr. Total (Estimate)
50060 mg/l	Total Residual Chlorine	–	0.5	–	–	2/Month	Grab
80082 mg/l	$CBOD_5$	10	15	–	–	1/Month	Grab

2. The pH (Reporting Code 00400) shall not be less than 6.5 S.U. nor greater than 9.0 S.U. and shall be monitored 1/month by grab sample.

(1) See Part II, Item B.

PART I, A - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfalls: OIB00009009, OIB00009010, OIB00009011, OIB00009012, OIB00009013, OIB00009014, OIB00009015, OIB00009016, OIB00009017 and OIB00009018. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	Concentration		Loading			
REPORTING	Other Units (Specify)		kg/day		Measurement	Sample
CODE/UNITS PARAMETER	30 DAY	DAILY	30 DAY	DAILY	Frequency	Type

These outfalls shall be limited to storm runoff free from industrial or process related contaminants present due to plant operations.

2. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

PART I, A. – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall: OIB00009019. See PART II, OTHER REQUIREMENTS, for locations of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENT	
			Concentration		Loading			
REPORTING			Other Units (Specify)		kg/day		Measurement	Sample
CODE/UNITS		PARAMETER	30 DAY	DAILY	30 DAY	DAILY	Frequency	Type
00530	MG/L	Residue, Total Nonfilterable	30	100	–	–	2/Week	Composite
00550	MG/L	Oil and Grease, Total	15	20	–	–	2/Week	Grab
00719	MG/L	Cyanide, Free*	–	–	–	–	1/Qtr.	Grab
00978	UG/L	Arsenic, Total Recoverable	–	–	–	–	1/Qtr.	Grab
00981	UG/L	Selenium, Total Recoverable	–	–	–	–	1/Qtr.	Grab
01002	UG/L	Arsenic, Total	–	–	–	–	1/Month	Grab
01012	UG/L	Berylium, Total Recoverable	–	–	–	–	1/Qtr.	Grab
01027	UG/L	Cadmium, Total Recoverable	–	–	–	–	1/Qtr.	Grab
01032	UG/L	Chromium, Dissolved Hexa-Valent (Cr +6)	–	–	–	–	1/Qtr.	Grab
01034	UG/L	Chromium, Total Recoverable	–	–	–	–	1/Qtr.	Grab
01074	UG/L	Nickel, Total Recoverable	–	–	–	–	1/Qtr.	Grab
01079	UG/L	Silver, Total Recoverable	–	–	–	–	1/Qtr.	Grab
01094	UG/L	Zinc, Total Recoverable	–	–	–	–	1/Qtr.	Grab
01114	UG/L	Lead, Total Recoverable	–	–	–	–	1/Qtr.	Grab
01119	UG/L	Copper, Total Recoverable	–	–	–		1/Qtr.	Grab
50050	MGD	Flow Rate	–	–	–	–	Daily	24 Hr. Total (Estimate)
50064	MG/L	Chlorine, Free Available**	–	0.085	–	–	1/Week	Grab*
71901	UG/L	Mercury, Total Recoverable	–	–	–	–	1/Qtr.	Grab

* Samples to be taken when cooling tower blowdown water is being discharged.

** Neither Free Available Chlorine, nor Total Residual Chlorine may be discharged from the unit for more than two hours in any one day. Analyses are to be performed by amperometric titration and/or Orion Residual Chlorine Electrode.

There shall be no detectable amounts of the 126 priority pollutants in the cooling tower blowdown water resulting from the use of chemicals added for cooling tower maintenance.

2. The pH (Reporting Code 00400) shall not be less than 6.5 S.U. nor greater than 9.0 S.U. and shall be monitored 2/week by grab sample.

3. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

...AL MONITORING REQUIREMENTS

...mittee shall monitor the treatment work's final sludge at ... OIB00009589 and report to the Ohio EPA in accordance with the ...ble. See PART II, OTHER REQUIREMENTS, for location of Sludge

...ISTIC ...ing, ...nits		Parameter	MONITORING REQUIREMENTS** Measurement Frequency	Sample Type
...16	Dry Tons	Sludge Weight*	1/Month	Total
70318	%	Percent Total Solids	1/Month	Grab
70322	%	Percent Volatile Solids	1/Month	Grab

* Calculated total for the sampling period.

** When sludge is removed from the wastewater treatment facility and disposed of by septic hauler. When sludge is not removed from the wastewater treatment facility for disposal enter "AH" on the report and explain in the "Additional Remarks" section of the report.

PART II, A

Part I, C. Schedule of Compliance

1. The permittee shall achieve compliance with Final Effluent Limitations and Monitoring Requirements for Total Residual Chlorine at outfalls OIB00009006 and OIB00009008 as expeditiously as practicable, but in no event later than the dates developed in accordance with the following schedule:

   A. Submit an approvable Permit-to-Install (PTI) and associated detail plans to the Ohio EPA, Southeast District Office within 4 months of the effective date of this permit.

   B. Initiate construction within 7 months of the effective date of this permit

   C. Complete construction within 11 months of the effective date of this permit.

   D. Attain compliance within 12 months of the effective date of this permit.

2. The permittee shall submit written verification to the Ohio EPA, Southeast District Office within 14 days of completion of steps 1.B thru 1.D.

II, OTHER REQUIREMENTS

A. Description of the location of the required sampling stations are as follows:

Sampling Station	Description of Location
OIB00009001	Units #1 and #2 condenser cooling water discharge. Samples to be collected of Total Units #1 and #2 cooling water discharge prior to entering the Ohio River. (Lat. 40° 15' 06"; Long. 80° 38' 50")
OIB00009006	Units 1 and 2 sewage treatment plant discharge. Samples to be collected at final discharge pipe from sewage treatment plant. (Lat. 40° 15' 09"; Long. 80° 38' 46")
OIB00009008	Unit 3 sewage treatment plant discharge. Samples to be collected at final discharge pipe from sewage treatment plant prior to entering the Ohio River. (Lat. 40° 14' 40"; Long. 80° 39' 16")
OIB00009009	Storm runoff from small drainage area of Units #1 and #2 parking lot. (Lat. 40° 15' 09"; Long. 80° 38' 50")
OIB00009010	Storm runoff from small drainage area adjacent to north coal pile runoff collection pond. (Lat. 40° 15' 00"; Long. 80° 38' 55")
OIB00009011	Storm runoff from northeast of Unit 3 plant building. (Lat. 40° 14' 36"; Long. 80° 39' 09")
OIB00009012	Storm runoff from northeast of Unit 3 plant building. (Lat. 40° 14' 33"; Long. 80° 39' 21")
OIB00009013	Storm runoff from Unit 3 parking and roadway area discharges to Salt Run via a ditch. (Lat. 40° 14' 40"; Long. 80° 39' 30")
OIB00009014	Storm runoff from a small area adjacent to Units #1 and #2 sewage treatment plant. (Lat. 40° 15' 07"; Long. 80° 38' 48")
OIB00009015	Storm runoff from a small area adjacent to outfall OIB00009010. (Lat. 40° 14' 57"; Long. 80° 38' 58")
OIB00009016	Storm runoff from a small area in front of the warehouse just south of the Unit 3 coal yard. (Lat. 40° 14' 42"; Long. 80° 39' 18")
OIB00009017	Storm runoff from a small area on the east side of the Unit 3 cooling tower. (Lat. 40° 14' 29"; Long. 80° 39' 22")
OIB00009018	Storm runoff from a small area on the east side of the Unit 3 cooling tower. (Lat. 40° 14' 28"; Long. 80° 39' 23")
OIB00009019	Fly Ash Pond Discharge. Samples to be collected immediately below the Fly Ash Dam at the Parshall flume. (Lat. 40° 15' 38"; Long. 80° 38' 55")
OIB00009589	Sludge monitoring station. Sample to be collected of liquid sludge removed from either sewage treatment plant for disposal.

PART II, OTHER REQUIREMENTS (Cont,)

A. Continued

Sampling Station	Description of Location
OIB00009701	Groundwater Monitor Well No. 1, upper zone. (Coordinates N 830,050 – E 2,518,000).
OIB00009702	Groundwater Monitor Well No. 1, lower zone. (Coordinates N 830,050 – E 2,518,000).
OIB00009703	Groundwater Monitor Well No. 2, upper zone. (Coordinates N 829,054 – E 2,517,846).
OIB00009704	Groundwater Monitor Well No. 2, lower zone. (Coordinates N 829,054 – E 2,517,846.)
OIB00009705	Groundwater Monitor Well No. 3. (Coordinates N 829,994 – E 2,518,683).
OIB00009706	Groundwater Monitor Well No. 4. (Coordinates N 830,800 – E 2,518,300).

B. For Outfalls OIB00009006 and OIB00009008, severity units are required to be reported for Turbidity, Odor, or Color. The following table should be used to determine the value between 0 and 4 that is reported:

REPORTED VALUE *	SEVERITY DESCRIPTION	TURBIDITY	ODOR	COLOR
0	None	Clear	None	Colorless
1	Mild			
2	Moderate	Light Solids	Musty	Grey
3	Serious			
4	Extreme	Heavy Solids	Septic	Black

* Interpolate between the descriptive phrases.

C. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2) (C), and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

(1) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

(2) Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

D. In the event the permittee's operation shall require the use of cooling water treatment additives, written permission must be obtained from the Ohio Environmental Protection Agency. The permittee shall demonstrate that the use of the additive in the concentrations expected will not be harmful or inimical to aquatic life as determined by acute static bioassays.

PART II, OTHER REQUIREMENTS (Cont,)

E. Permit limitations may be revised in order to meet water quality standards after a stream use determination and waste load allocation are completed and approved. This permit may be modified, or, alternatively, revoked and reissued, to comply with any applicable water quality effluent limitations.

F. No other discharges are permitted, other than those stated in this permit and intake screen backwashes (intake screen backwashing is not viewed by Ohio EPA as a violation of Part II, 21.)

G. There shall be no discharge of polychlorinated biphenyl compounds attributable to the permittee's operations.

H. The permittee shall adhere to the following procedure for the treatment of chemical metal cleaning wastewater (chemical metal cleaning wastewater refers to those operations using chemical compounds for the cleaning of any metal process equipment including, but not limited to, boiler tubs cleaning):

1. Notify the District Engineer of Ohio EPA at least two weeks prior to the date of an anticipated chemical cleaning operation and type of cleaning compound to be used. Any change in schedule or cleaning compound shall be reported as soon as possible.

2. Chemical metal cleaning wastewater, including rinses, shall be discharged to the chemical metal cleaning waste treatment facility. The allowable concentrations of Total Iron and Total Copper in the treated wastewater are 1.0 mg/l Total Iron and 1.0 mg/l Total Copper. Sampling at minimum shall consist of a Grab Sample confirming adequate treatment of the wastes prior to pumping and a Grab Sample of the actual treated wastes being provided on the last day of pumping confirming that the waste still does not exceed the allowable concentrations.

3. Submit a report to the Ohio EPA within 14 days after confirming that treatment is completed which includes the following:

   a. Estimated volume of chemical metal cleaning waste including rinse water.

   b. Type of cleaning compound used.

   c. Designation of method of decanting the supernatant in the treatment facility.

   d. Report all analytical data including date, time and metal concentrations of samples taken to show compliance with the required degree of treatment given in (H.2.) above.

   e. Any unusual events occurring during the metal cleaning and treatment period.

PART II, OTHER REQUIREMENTS (Cont,)

H. Continued

4. If the permittee elects to dispose of the chemical metal cleaning wastewater and rinse water off-site instead of treating the chemical metal cleaning wastewater, the permittee shall receive prior authorization from OEPA District Office to use a proposed site. The permittee shall submit a report to Ohio EPA within 14 days after the wastewater is hauled off-site which includes the following:

   a. Estimated volume of chemical metal cleaning waste including rinse water.

   b. Identify the boiler and indicate that the wastewater was manifested.

   c. Indicate the name, operator and location of the disposal site.

   d. Any unusual events occurring during the chemical metal cleaning period.

I. The permittee shall operate Units 1 and 2 in accordance with alternative thermal effluent limitations approved pursuant to Section 316(a) of the Clean Water Act (CWA) and set forth on Page 2 of 19 of this permit.

J. Thermal Load Calculation

1. Determine maximum hourly output for the day (Mwhr.)
2. The equation used is $Q = MC\Delta T$
   Where: Q = MMBTU/hr
   M = #s water/hr
   C = BTU's/# ^{o}F = 1
   T = ^{o}F
   This equation shall be used to calculate Q for each unit during the maximum hourly output for that day.
3. Flow (M) is variable, dependent on number of pumps in service and their operating efficiency (formula uses pounds of water per hour).
4. At the intake a resistant thermal device (RTD) measures the temperature at each circulating water pump (total of 4) (i.e. 2 pumps/unit).
5. At the discharge an RTD measures the temperature at each condenser discharge leg (6 per unit).
6. The inlet temperature for each unit is an average of the 2 inlet temperature values.
7. The discharge temperature is an average of the 6 temperature values for each unit.
8. The ΔT used is obtained from the strip charts.
9. The total plant thermal load is the sum of the thermal loads of Units 1 and 2.

K. The permittee is relieved of the reporting requirements for the following substances consistent with Exclusion 2 of Section 311 of the Clean Water Act.

ammonium hydroxide
chlorine
sodium hydroxide
sodium nitrite
sulfuric acid
calcium hypochlorite
sodium bisulfite

I. OTHER REQUIREMENTS (Cont,)

Within 120 days of the effective date of this permit, the permittee shall submit a report which demonstrates that no detectable quantities of the 40 CFR 423-Appendix A, 126 priority pollutants are discharged as a result of the chemicals added for cooling tower discharge maintenance. This report shall include analytical results or engineering calculations which demonstrate that any priority pollutants present in the chemicals used for maintenance are not detectable in the cooling tower discharge. In lieu of analytical results or engineering calculations the permittee may provide the Ohio EPA a letter certifying it does not use cooling tower maintenance chemicals containing any of the 126 priority pollutants.

M. Composite samples shall be comprised of a series of grab samples collected over a 24 hour period and proportionate in volume to the wastewater flow rate at the time of sampling. Such samples shall be collected at such times and locations, and in such a fashion, as to be representative of the facility's overall performance.

OEPA Permit No. B 017 *AD

Application No. OH 0050741

Effective Date: September 14, 1977

Expiration Date: November 30, 1981

OHIO ENVIRONMENTAL PROTECTION AGENCY

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq. hereinafter referred to as "the Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

Cardinal Operating Company
301 Cleveland Avenue, S.W.
Canton, Ohio 44702

and

Buckeye Power, Inc.
6677 Busch Blvd.
Columbus, Ohio 43229

is authorized by the Ohio Environmental Protection Agency, hereafter referred to as "Ohio EPA", to discharge from the wastewater treatment works located cardinal
it #3, 3 miles southwest of Billiant, Ohio in Wells Township, Jefferson County, Ohio
to Ohio River

in accordance with the conditions specified in Parts I, II and III of this permit.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.

Ned E. Williams

Ned E. Williams, P.E.
Director

Ohio Environmental Protection Agency
Received To Journal

SEP 14 1977

OEPA-NPDES-48

PART I, - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfalls: 001 (sewage treatment system for Cardinal Unit #3)

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units (Specify)		Loading kg/day(lbs/day)			
REPORTING CODE	UNITS	PARAMETER	30 day	7 day	30 day	7 day	Measurement Frequency	Sample Type
00056	gpd	Flow	-	-	-	-	Daily	24 hr. total (Est.)
00530	mg/1	Total Suspended Solids	12 mg/1	18 mg/1	-	-	Monthly	Grab
00310	mg/1	BOD_5	10 mg/1	15 mg/1	-	-	Monthly	Grab
31616	Count /100ml	Fecal Coliforms	200/100	400/100	-	-	Monthly	Grab
50060	mg/1	Total Chlorine Residual	-	-	-	-	Daily	Grab*
01350	No.	Turbidity, Severity	-	-	-	-	Daily	Observation
01330	No.	Odor, Severity	-	-	-	-	Daily	Observation
00083	No.	Color, Severity	-	-	-	-	Daily	Observation

*Colorimetric testing is acceptable.

2. The pH [Reporting Code 00400] shall not be less than 6.0 S.U. nor greater than 9.0 S.U. and shall be monitored as grab sample monthly.

3. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, Other Requirements.

4. See PART II, OTHER REQUIREMENTS.

PART II, OTHER REQUIREMENTS

A. Description of the location of the required sampling stations are as follows:

Sampling Station	Description of Location
B017001	Sewage Treatment Plant

B. All parameters need not be monitored on days when the plant is not normally staffed (Saturdays, Sundays, and Holidays). On those days report "AN" on the monthly report forms.

C. For turbidity, odor, and color severity report number between 0 and 4 from table below. Interpolate between the descriptive phrases.

Severity No.	Severity Desc.	Turbidity	Odor	Color
0	None	Clear	None	Colorless
1	Mild			
2	Moderate	Light Solids	Musty	Grey
3	Serious			
4	Extreme	Heavy Solids	Septic	Black

OEPA Permit No. OIB00009*FD

Application No. OH0012581

Effective Date: September 23, 1985

Expiration Date: September 20, 1990

OHIO ENVIRONMENTAL PROTECTION AGENCY

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq. hereinafter referred to as "the Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

Cardinal Operating Company
301 Cleveland Avenue, S.W.
Canton, Ohio

is authorized by the Ohio Environmental Protection Agency, hereafter referred to as "Ohio EPA", to discharge from the wastewater treatment works located

at the Cardinal Plant, three miles southwest of Brilliant, Wells Township, Jefferson County, Ohio

and discharging to Blockhouse Hollow Run, Riddles Run, Salt Run, and the Ohio River

in accordance with the conditions specified in Parts I, II and III of this permit.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.

Warren W. Tyler
Director

PART I, A – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until November 18, 1985, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfalls: OIB00009001. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units(Specify)		Loading kg/day			
REPORTING Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Meas. Freq.	Sample Type
50050	MGD	Flow	–	–	–	–	Daily	24 Hour Estimate
50064	mg/l	Free Available Chlorine*	0.2	0.5	–	–	Daily	Grab
00015	10^6 BTU/hour	Thermal Load	–	6340	–	–	Daily	See Part II, J

*The daily grab samples for Free Available Chlorine shall represent the maximum concentration discharged during chlorination. Free Available Chlorine may not be discharged from any single generating unit for more than two hours per day. Simultaneous multi-unit chlorination is permitted. Analyses are to be performed b amperometric titration. Sampling may be done at condenser discharge if appropriat correlations are established.

2. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

3. See PART II, OTHER REQUIREMENTS.

I. A – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on November 19, 1985 and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: OIB00009001. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units (Specify)		Loading kg/day			
REPORTING Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Meas. Freq.	Sample Type
50050	MGD	Flow	–	–	–	–	Daily	24 Hour Total Estimate
50060	mg/l	Total Residual Chlorine	–	0.2	–	–	Daily	Grab
00015	BTU X 10^6	Thermal Load per Hr.	–	6340	–	–	Daily	See Part II, J

* The Total Residual Chlorine limit is the maximum allowed at any time at the outfall. The daily grab samples for Total Residual Chlorine shall represent the maximum concentration discharged during chlorination. Total Residual Chlorine may not be discharged from any single generating unit for more than two hours per day. Simultaneous multi-unit chlorination is permitted. Analyses are to be performed by amperometric titration and/or Orion Chlorine Electrode. Sampling may be done at condenser discharge if appropriate correlations are established.

2. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

3. See PART II, OTHER REQUIREMENTS.

PART I, A – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 01B00009005. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units(Specify)		Loading kg/day		Meas.	Sample
REPORTING Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Freq.	Type
50050	MGD	Flow***	–	–	–	–	Daily	24 Hour Total Estimate
00530	mg/l	Total Suspended Solids	30	100	–	–	2/Week	Grab
00550	mg/l	Oil & Grease	15	20	–	–	1/Month	Grab
01002	ug/l	Arsenic, Total	–	–	–	–	1/Month	Grab
50064	mg/l	Free Available Chlorine*	–	0.085	–	–	1/Week	Grab**

* Free Available Chlorine may not be discharged from the cooling tower for more than 2 hours per day per unit and simultaneous multi-unit chlorination of units routed to cooling towers is prohibited unless it can be demonstrated that the units in a particular location cannot operate at or below this level of chlorination. Analyses are to be performed at amperometric titration.

** Samples to be taken when cooling tower blowdown water is being discharged from 01B00009005.

*** Until construction activity on the new fly ash dam is completed, this sampling point may be inaccessible during severe weather conditions. At these times, the permittee shall use reporting code AH.

There shall be no detectable amounts of the 126 priority pollutants in the cooling tower blowdown water resulting from the use of chemicals added for cooling tower maintenance.

2. The pH (Reporting Code 00400) shall not be less than 6.0 S.U. nor greater than 9.0 S.U. and shall be monitored twice per week by grab sample.

3. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

4. See PART II, OTHER REQUIREMENTS.

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PART I, A – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: OIB00009006. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units (Specify)		Loading kg/day			
REPORTING Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Meas. Freq.	Sample Type
00056	GPD	Flow,	–	–	–	–	Daily	24 Hour Estimate
00310	mg/l	Biochemical Oxygen Demand	10	15	–	–	1/Month	Grab
00530	mg/l	Total Suspended Solids	12	18	–	–	1/Month	Grab
31616	Count /100ml	Fecal Coliform (Summer)	200	400	–	–	1/Month	Grab
		(Winter)	1000	2000	–	–	1/Month	Grab
00060	mg/l	Total Residual Chlorine***	1.0	2.0	–	–	Daily	Grab*
01350	No.	Turbidity, Severity**	–	–	–	–	Daily	Observation
01330	No.	Odor, Severity**	–	–	–	–	Daily	Observation
00083	No.	Color, Severity**	–	–	–	–	Daily	Observation

* Colorimetrict testing is acceptable

** See Part II, Paragraph C.

*** Ohio EPA reserves the right to modify the Total Residual Chlorine limits for outfall OIB00009006 after the agency's chlorination policy is finalized, pursuant to the procedure in Ohio Revised Code Section 6111.06(B).

2. The pH (Reporting Code 00400) shall not be less than 6.0 S.U. nor greater than 9.0 S.U. and shall be monitored monthly by grab sample.

3. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

4. See PART II, OTHER REQUIREMENTS.

ART I, A – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: OIB00009008. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units (Specify)		Loading kg/day			
REPORTING Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Meas. Freq.	Sample Type
00056	GPD	Flow	–	–	–	–	Daily	24 Hour Estimate
00310	mg/l	Biochemical Oxygen Demand	10	15	–	–	1/Month	Grab
00530	mg/l	Total Suspended Solids	12	18	–	–	1/Month	Grab
31616	Count /100ml	Fecal Coliform (Summer)	200	400	–	–	1/Month	Grab
		(Winter)	1000	2000	–	–	1/Month	Grab
50060	mg/l	Total Residual Chlorine***	1.0	2.0	–	–	Daily	Grab*
01350	No.	Turbidity, Severity**	–	–	–	–	Daily	Observation
01330	No.	Odor, Severity**	–	–	–	–	Daily	Observation
00083	No.	Color, Severity**	–	–	–	–	Daily	Observation

* Colorimetrict testing is acceptable

** See Part II, Paragraph C.

*** Ohio EPA reserves the right to modify the Total Residual Chlorine limits for outfall OIB00009008 after the agency's chlorination policy is finalized, pursuant to the procedure in Ohio Revised Code Section 6111.06(B).

2. The pH (Reporting Code 00400) shall not be less than 6.0 S.U. nor greater than 9.0 S.U. and shall be monitored monthly by grab sample.

3. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

4. See PART II, OTHER REQUIREMENTS.

PART I, A - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfalls: OIB00009009, OIB00009010, OIB00009011, OIB00009012 and OIB00009013. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration		Loading			
REPORTING			Other Units(Specify)		kg/day		Meas.	Sample
Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Freq.	Type

This outfalls are limited to storm runoff free from industrial or process related contaminants.

2. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

3. See PART II, OTHER REQUIREMENTS.

PART I, B. – ADDITIONAL MONITORING REQUIREMENTS

1. Groundwater Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall sample groundwater monitor well Nos. OIB00009701, OIB00009702, OIB00009703, OIB00009704, OIB00009705 and OIB00009706 and report to the Ohio EPA in accordance with the following table. SEE PART II, OTHER REQUIREMENTS, for description of wells.

EFFLUENT CHARACTERISTIC			MONITORING REQUIREMENTS	
REPORTING Code	UNITS	PARAMETER	Measurement Frequency	Sample Type
00010	C	Temperature	1/Quarter*	Grab
00095	UMHO	Specific Conductance	1/Quarter*	Grab
		Static Water Level	1/Quarter*	Measurement
00410	mg/l	Total Alkalinity	1/Quarter*	Grab
00510	mg/l	Total Dissolved Solids	1/Quarter*	Grab
00916	mg/l	Total Calcium	1/Quarter*	Grab
00927	mg/l	Total Magnesium	1/Quarter*	Grab
00929	mg/l	Total Sodium	1/Quarter*	Grab
00940	mg/l	Chloride	1/Quarter*	Grab
00945	mg/l	Sulfate	1/Quarter*	Grab
00680	mg/l	Total Organic Carbon	1/Quarter*	Grab
01002	ug/l	Total Arsenic	1/Quarter*	Grab
01027	ug/l	Total Cadmium	1/Quarter*	Grab
01045	ug/l	Total Iron	1/Quarter*	Grab
01051	ug/l	Total Lead	1/Quarter*	Grab
01055	ug/l	Total Manganese	1/Quarter*	Grab
01147	ug/l	Total Selenium	1/Quarter*	Grab
00400	S.U.	pH	1/Quarter*	Grab

* Quarterly sampling and reporting applies until July 1986. After this date, sampling and reporting to be conducted semi-annually.

June & December

II. OTHER REQUIREMENTS

A. Description of the location of the required sampling stations are as follows:

Sampling Station	Description of Location
OIB00009001	(Units 1 and 2 condenser cooling water discharge) Samples to be collected of Total Units 1 and 2 cooling water discharge prior to entering the Ohio River.
OIB00009005	(Fly Ash Pond Discharge) Samples to be collected of discharge immediately below the Fly Ash Dam and prior to combining with the stream that drains the east branch of Blockhouse Hollow.
OIB00009006	(Units 1 and 2 sewage treatment plant discharge) Samples to be collected at final discharge pipe from sewage treatment plant prior to entering Riddles Run.
OIB00009008	(Unit 3 sewage treatment plant discharge) Samples to be collected at final discharge pipe from sewage treatment plant prior to entering the Ohio River.
OIB00009009	(Storm runoff from small drainage area on south side of Unit 1 and 2 plant building).
OIB00009010	(Storm runoff from small drainage area on south side of Unit 1 and 2 plant building).
OIB00009011	(Storm runoff from northeast of Unit 3 plant building).
OIB00009012	(Storm runoff from northeast of Unit 3 plant building).
OIB00009013	(Storm runoff from Unit 3 parking and roadway area).
OIB00009701	(Groundwater Monitor Well No.1, upper zone). Coordinates N 830,050 – E 2,518,000.
OIB00009702	(Groundwater Monitor Well No. 1, lower zone). Coordinates N 830,050 – E 2,518,000.
OIB00009703	(Groundwater Monitor Well No. 2, upper zone). Coordinates N 829,054 – E 2,517,846.
OIB00009704	(Groundwater Monitor Well No. 2, lower zone). Coordinates N 829,054 – E 2,517,846.
OIB00009705	(Groundwater Monitor Well No. 3). Coordinates N 829,994 – E 2,518,683.
OIB00009706	(Groundwater Monitor Well No. 4). Coordinates N 830,800 – E 2,518,300.

PART II, OTHER REQUIREMENTS (cont)

B. In addition to the reporting required by the paragraph entitled "REPORTING" in PART III, General Conditions, monitoring results obtained during each month shall be summarized and reported on a Discharge Monitoring Report Form (EPA No. 3320-1 or T-40 as appropriate), to be received no later than the 15th of the next month. The original copy of the report form shall be signed and mailed to:

Attention: Kenneth Fenner, Chief
U.S. EPA - Region V (5WQP)
Water Quality Branch
230 S. Dearborn Street
Chicago, Illinois 60604

C. For Outfalls OIB00009006 and OIB00009008, severity units are required for turbidity, odor, and color. Report a number between 0 and 4 from the table below for each parameter. Interpolate between the descriptive phrases.

REPORTED VALUE	SEVERITY DESCRIPTION	TURBIDITY	ODOR	COLOR
0	None	Clear	None	Colorless
1 2	Mild Moderate	Light Solids	Musty	Grey
3 4	Serious Extreme	Heavy Solids	Septic	Black

D. Permit limitations may be revised in order to meet water quality standards after a stream use determination and waste load allocation are completed and approved. This permit may be modified, or, alternatively, revoked and reissued, to comply with any applicable water quality effluent limitations.

E. In the event the permittee's operation shall require the use of cooling water treatment additives, written permission must be obtained from the Ohio Environmental Protection Agency. The permittee shall demonstrate that the use of the additive in the concentrations expected will not be harmful or inimical to aquatic life as determined by acute static bioassays.

F. No other discharges are permitted, other than those stated in this permit and intake screen backwashes.

G. There shall be no discharge of polychlorinated biphenyl compounds attributable to the permittee's operations.

H. The permittee shall adhere to the following procedure for the treatment of chemical metal cleaning wastewater (chemical metal cleaning wastewater refers to those operations using chemical compounds for the cleaning of any metal process equipment including, but not limited to, boiler tubs cleaning):

1. Notify the District Engineer of Ohio EPA at least two weeks prior to the date of an anticipated chemical cleaning operation and type of cleaning compound to be used. Any change in schedule or cleaning compound shall be reported as soon as possible.

OhioEPA
State of Ohio Environmental Protection Agency
Southeast District Office
35 Front Street
Logan, Ohio 43138-9031
(614) 385-8501
FAX (614) 385-6490

George V. Voinovich
Governor

INTEROFFICE COMMUNICATION

TO: Paul Novak, Permits Section Manager, DWPC, CO

FROM: Janet Barth
Janet Barth, DWPC, SEDO

SUBJECT: Draft NPDES Permit #OIB00009*IX, Cardinal Operating Company, Jefferson County

DATE: September 3, 1992

Attached are the draft NPDES permit and briefing memo for the Cardinal Plant. Following is a brief description of some permit changes and items to be noted in the draft permit:

1) Monitoring frequencies were kept at the same frequency as in the existing permit for all parameters except metals at 019. The metals frequencies were established at 1/week rather than 1/Qtr. The WQBEL report recommended metals monitoring 2/week. The 1/week frequency is consistent with that established in OVEC's recent permit. Note that the existing permit's monitoring frequencies were negotiated and are not as frequent as would be required by policy #1.20.

2) During my pre-permit inspection, the facility's representatives requested that the permit by drafted to allow for flexibility in their chlorination practices depending on the stream conditions. This request was written into the permit as noted by outfalls 001 and 690.

3) The sanitary discharges, outfalls 006 and 008, have been listed separately and loading limitations added for SS and $CBOD_5$. The outfalls were separated to allow loading limits to be calculated and to set up summer and winter limitations for Fecal Coliform on the Ohio River discharge (008) as required by ORSANCO.

4) Limitations for metals at outfall 019 were established based on the WQBEL report. The recommended Berylium limitations were not established in the permit because this limitation is being reevaluated. Monitoring only was established in the permit for Berylium. Accurate flow measuring (rather than an estimate) requirements were established at 019 in accordance with policy #1.20.

5) The existing limitation for free available chlorine (0.085 mg/l max.) at outfall 019 was maintained in the permit. I request that this limitation be reevaluated and revised as necessary. The 0.085 mg/l limitation was established years ago as the detection limit for FAC. I believe a more stringent detection limit is now available and should be incorporated in the permit.

6) Outfall 017 has been eliminated.

7) Acute toxicity monitoring was established in the permit as recommended by the WQBEL report. The upstream station was set up in the Ohio River since there is no flow upstream of the 019 discharge on Blockhouse Hollow. Based on the WQBEL report recommendations, the facility can use Ohio River water as dilution and control water. As such, Marty Knapp noted during a telephone conversation on 8/31/92, that an Ohio River outfall should be designated in the permit.

8) Part II, Item K - The permittee requested, in their 2C application, that the CWA Section 311, exclusion 3 exclusions be granted.

The following item needs to be addressed by C.O.:

1) The 2C application showed that some of the storm water outfalls had concentrations for some parameters which were higher than would be expected for an uncontaminated storm water discharge. These include:

Outfall	Parameter	Concentration
011	COD	100 mg/l
	pH	10.26 S.U.
013	COD	190 mg/l
	pH	9.01 S.U.
015	COD	240 mg/l
	TSS	363 mg/l
016	pH	10.95 S.U.

This has been discussed with Raj, Mike Sapp and John Morrison. Based on my 8/31/92, telephone conversation with John Morrison, the draft permit was set up with the standard language for the storm water outfalls in the general permit/storm water management language that John Morrison is working on to be incorporated by C.O. Office. Please contact John Morrison for more information.

During my pre-permit inspection, the following comments about the WLA and WQBEL report were brought up by the facility's representatives and will probably need to be addressed when the permit is public noticed:

1) The toxicity testing from the Cardinal and OEPA split showed different results. Although they agreed that the toxicity shown by our tests may warrant additional sampling, they believed monthly tests were not warranted. In addition, since neither test results showed toxicity to minnows, they felt toxicity monitoring of the ceriodaphnia only would be adequate.

2) They had some questions concerning the flow used in the WLA for outfall 019. The flow was an annual average rather than a maximum or seasonal maximum and was based on actual data rather than the flow provided in the 2C application.

The following items were requested by the permittee in their 2C application but were not addressed in the draft permit:

1) They have requested that the 316(b) documents submitted May 11, 1981, for units #1 and #2 and February 1, 1980, for unit #3 be reviewed.

2) Establishment of non-thermal mixing zones in accordance with OAC 3745-1-06(A) for outfalls where WQBEL's are established.

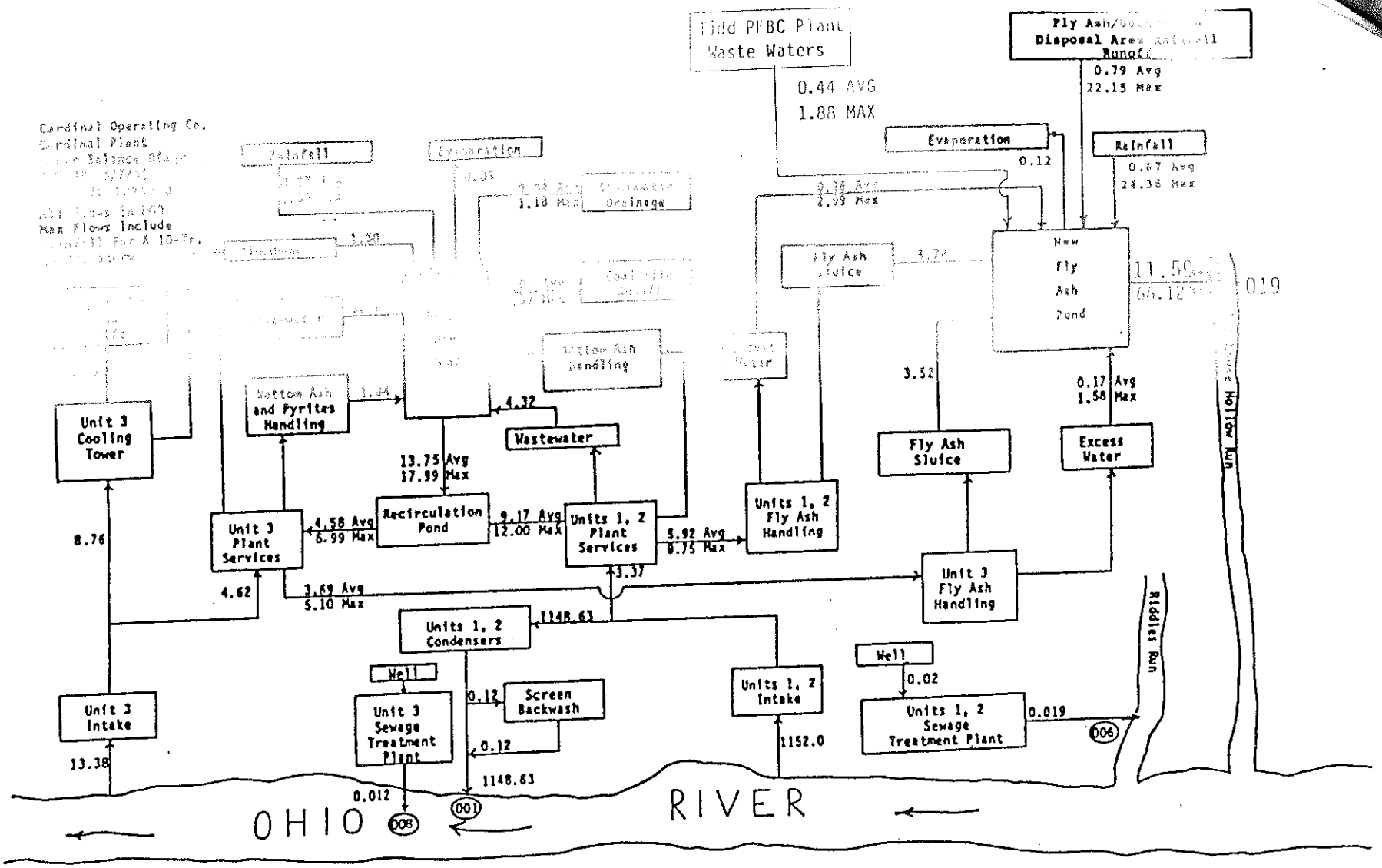
3) Request that effluent limitations be calculated on a net basis to account for intake water pollutants.

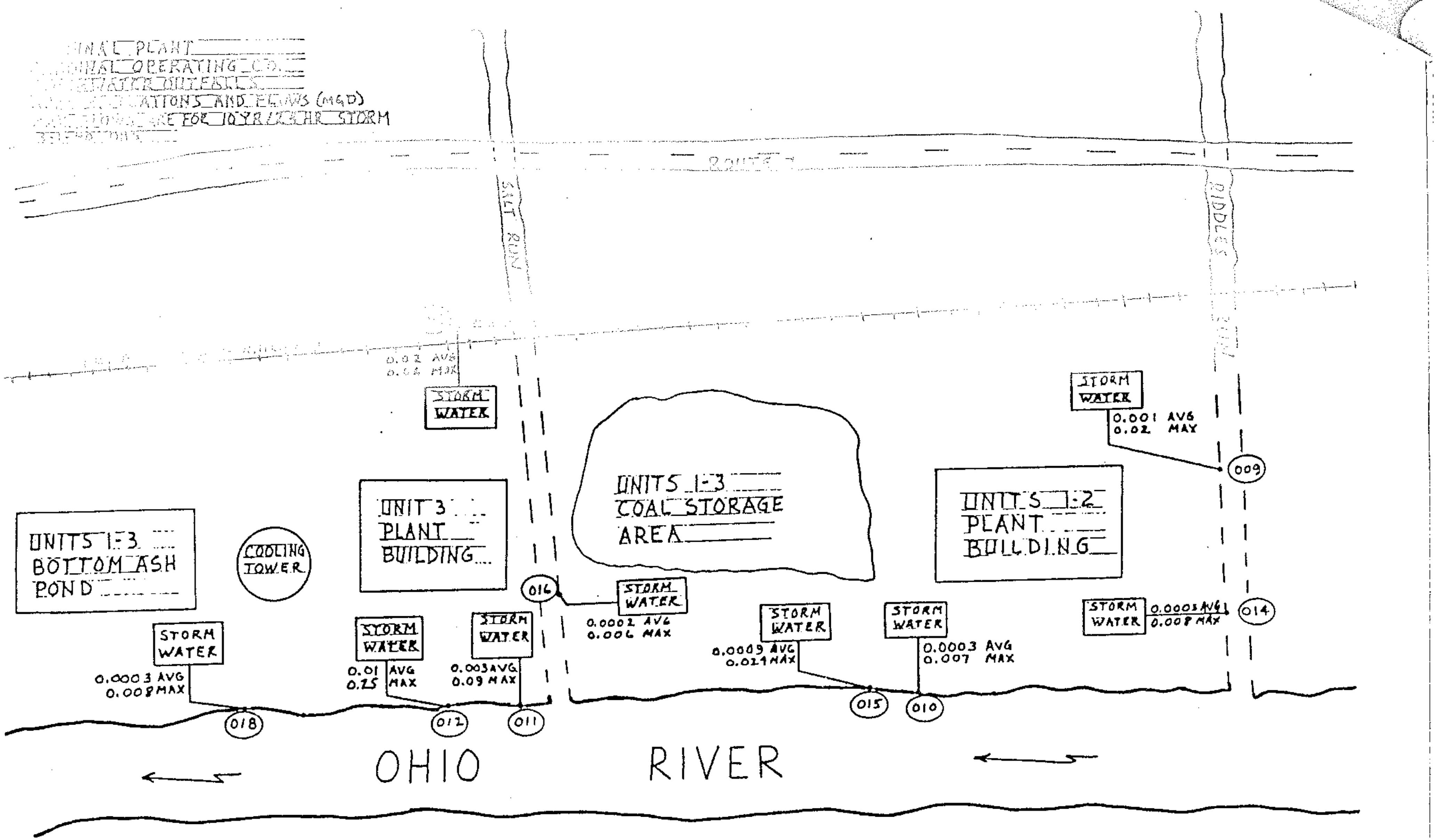
Please process the draft permit.

If you have any questions, please call me.

JB/jw

Attachments


Cardinal Operating Co.
Cardinal Plant
Max Flows Include
Fidd PFBC Plant
Waste Waters
0.44 AVG
1.88 MAX
Fly Ash/
Disposal Area
Runoff
0.79 Avg
22.15 Max
Evaporation
0.12
Rainfall
0.87 Avg
24.36 Max
0.16 Avg
2.99 Max
Fly Ash
Sluice
3.74
New
Fly
Ash
Pond
11.50
66.12
019
Bottom Ash
Handling
Bottom Ash
and Pyrites
Handling
1.34
4.32
Wastewater
Unit 3
Cooling
Tower
13.75 Avg
17.99 Max
Recirculation
Pond
4.58 Avg
6.99 Max
9.17 Avg
12.00 Max
Units 1, 2
Plant
Services
5.92 Avg
8.75 Max
Units 1, 2
Fly Ash
Handling
3.52
Fly Ash
Sluice
0.17 Avg
1.58 Max
Excess
Water
Hollow Run
8.76
Unit 3
Plant
Services
4.62
3.69 Avg
5.10 Max
3.37
Unit 3
Fly Ash
Handling
Units 1, 2
Condensers
1148.63
Ripples Run
Well
Unit 3
Intake
13.38
Unit 3
Sewage
Treatment
Plant
0.12
Screen
Backwash
0.12
0.012
001
008
Units 1, 2
Intake
1152.0
Well
0.02
Units 1, 2
Sewage
Treatment Plant
0.019
006
OHIO
RIVER


PLANT
OPERATING CO.
AND FLOWS (MGD)
ARE FOR 10 YR 24 HR STORM
ROUTE 7
SALT RUN
RIDDLES RUN
0.02 AVG
0.06 MAX
STORM WATER
UNITS 1-3 BOTTOM ASH POND
COOLING TOWER
UNIT 3 PLANT BUILDING
UNITS 1-3 COAL STORAGE AREA
UNITS 1-2 PLANT BUILDING
STORM WATER
0.001 AVG
0.02 MAX
009
016
STORM WATER
0.0002 AVG
0.006 MAX
STORM WATER
0.0003 AVG
0.008 MAX
018
STORM WATER
0.01 AVG
0.25 MAX
012
STORM WATER
0.003 AVG
0.09 MAX
011
STORM WATER
0.0009 AVG
0.024 MAX
015
STORM WATER
0.0003 AVG
0.007 MAX
010
STORM WATER
0.0003 AVG
0.008 MAX
014
OHIO RIVER

NPDES PERMIT APPLICATION

Cardinal Operating Co.

Cardinal Plant

NPDES Permit Application OH0012581

March, 1992

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved. OMB No. 2040-0086. Approval expires 5-31-92.

FORM 1

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

GEI

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

-Copy-

Date Sent to C.O. 4-1-92

OIB000009*GX

I. EPA I.D. NUMBER

F O H O O 1 2 5 8 1 — D

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		X
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
E. [illegible]s or will this facility treat, store, or dispose of [illegible]rdous wastes? (FORM 3)	X		
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	
J. Is this facility a proposed **stationary source** which is **NOT** one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP C A R D I N A L P L A N T

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 T O W N L E Y E. L. P L A N T M A N A G E R	6 1 4 — 5 9 8 — 4 1 6 4

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P. O. B O X B

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 B R I L L I A N T	O H	4 3 9 1 3

PAID

Account 15 Date 3/31/92

Check # 189552 Date 3/26/92

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 ATE ROUTE 7 SOUTH

B. COUNTY NAME

JEFFERSON

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 B R I			

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
4911 (specify) ELECTRIC SERVICES	7 NA (specify) NA
C. THIRD	**D. FOURTH**
7 NA (specify) NA	7 NA (specify) NA

VIII. OPERATOR INFORMATION

A. NAME

8 CARDINAL OPERATING COMPANY

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☒ NO (66)

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)

P (specify) CORPORATION

D. PHONE (area code & no.)

A 614 598 4164

E. STREET OR P.O. BOX

P O BOX B

F. CITY OR TOWN

B BRILLIANT

G. STATE OH

H. ZIP CODE 43913

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO (52)

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): 9 N OIB0009	**D. PSD** (Air Emissions from Proposed Sources): 9 P NA
B. UIC (Underground Injection of Fluids): U NA	**E. OTHER** (specify): 9 89137 (specify) CORPS OF ENGINEERS PERMIT FOR MAINTENANCE DREDGING
C. RCRA (Hazardous Wastes): 9 R NA	**E. OTHER** (specify): 9 AIR PERMITS (specify) SEE ATTACHMENT

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Electric Generating Station - Units 1 and 2 (600 MW [net] coal-fired units each) and Unit 3 (630 MW [net] coal-fired unit); all have electrostatic precipitators, and Unit 3 is equipped with a cooling tower. Unit 1 is owned by the Ohio Power Company, Units 2 and 3 are owned by Buckeye Power Incorporated.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Director and Vice-President Cardinal Operating Company	C. D. Della	3/30/92

COMMENTS FOR OFFICIAL USE ONLY

C

ATTACHMENT FOR
FORM 1, ITEM X

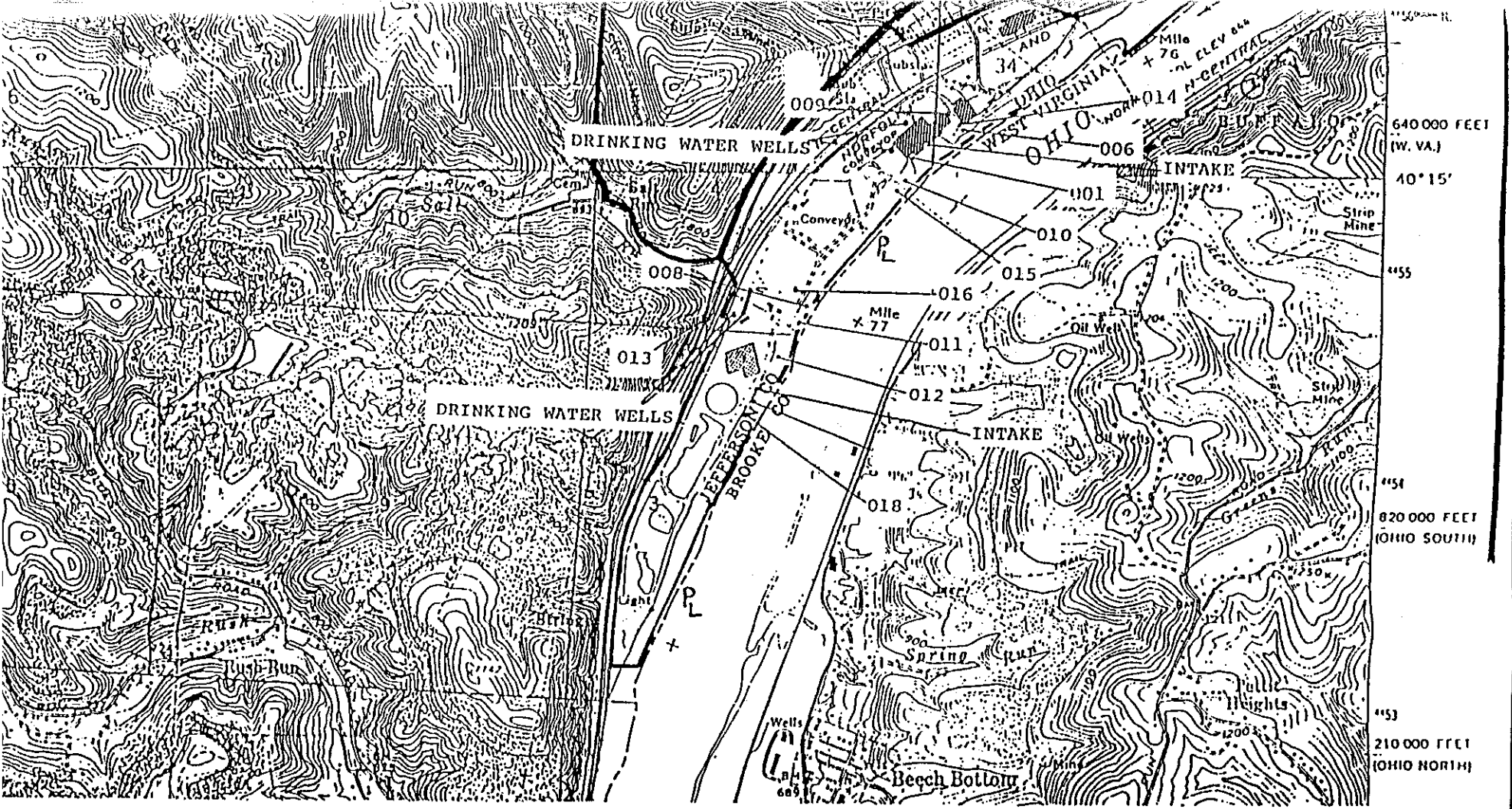
Cardinal Plant

Ohio Power Company

Buckeye Power, Inc.

LIST OF AIR PERMITS

Permit No.	Description
1741050002B001	Main Boiler Unit 1
1741050002B002	Main Boiler Unit 2
1741050002F001	Paved/Unpaved Roadways & Parking Areas
1741050002F002	Coal Handling - Cardinal Plant
1741050002F003	Unit 1-3 Coal Storage Piles
1741050002F004	Bottom Ash Handling
1741050129B002	Main Boiler Unit 3
1741050129B001	Unit 3 Auxiliary Boiler



SCALE 1:24 000

1 0 1 MILE

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1 5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

MN GN

5½° 98 MILS 0°12' 4 MILS

ID AND 1978 MAGNETIC NORTH
IMATION AT CENTER OF SHEET

QUADRANGLE LOCATION

STEUBENVILLE WEST, OHIO—W. VA.

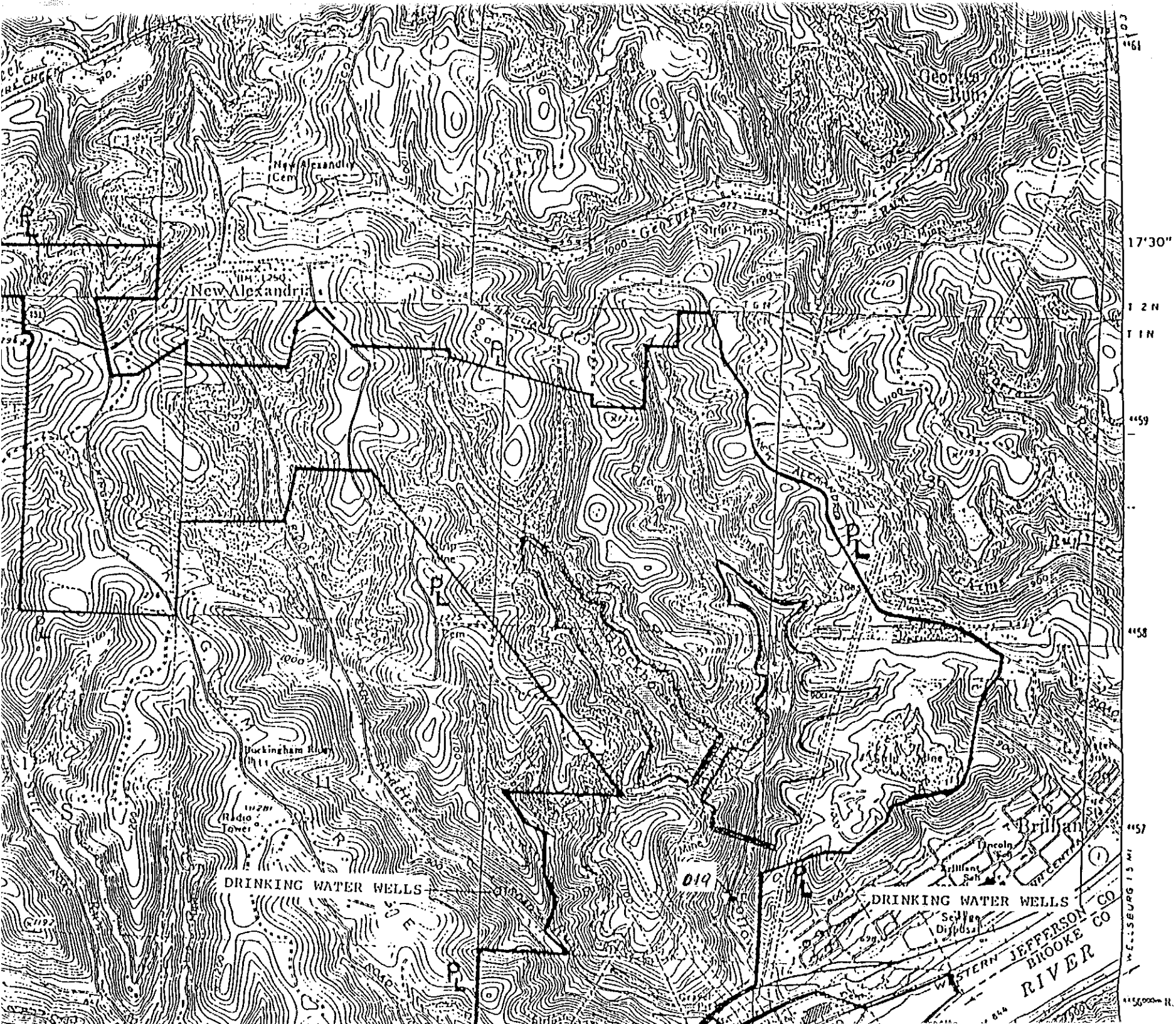
N4015—W8037.5/7.5

1968
PHOTOREVISED 1978
AMS 4864 I SW—SERIES V852

TILTONSVILLE, OHIO—W. VA.

N4007.5—W8037.5/7.5

1968
PHOTOREVISED 1978
AMS 4864 II NW—SERIES V854


New Alexandria
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George Run
Strip Mine
Buckingham River
Radio Tower
DRINKING WATER WELLS
Brilliant
Lincoln Park
Cemetery
Settling Disposal
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BROOKE CO
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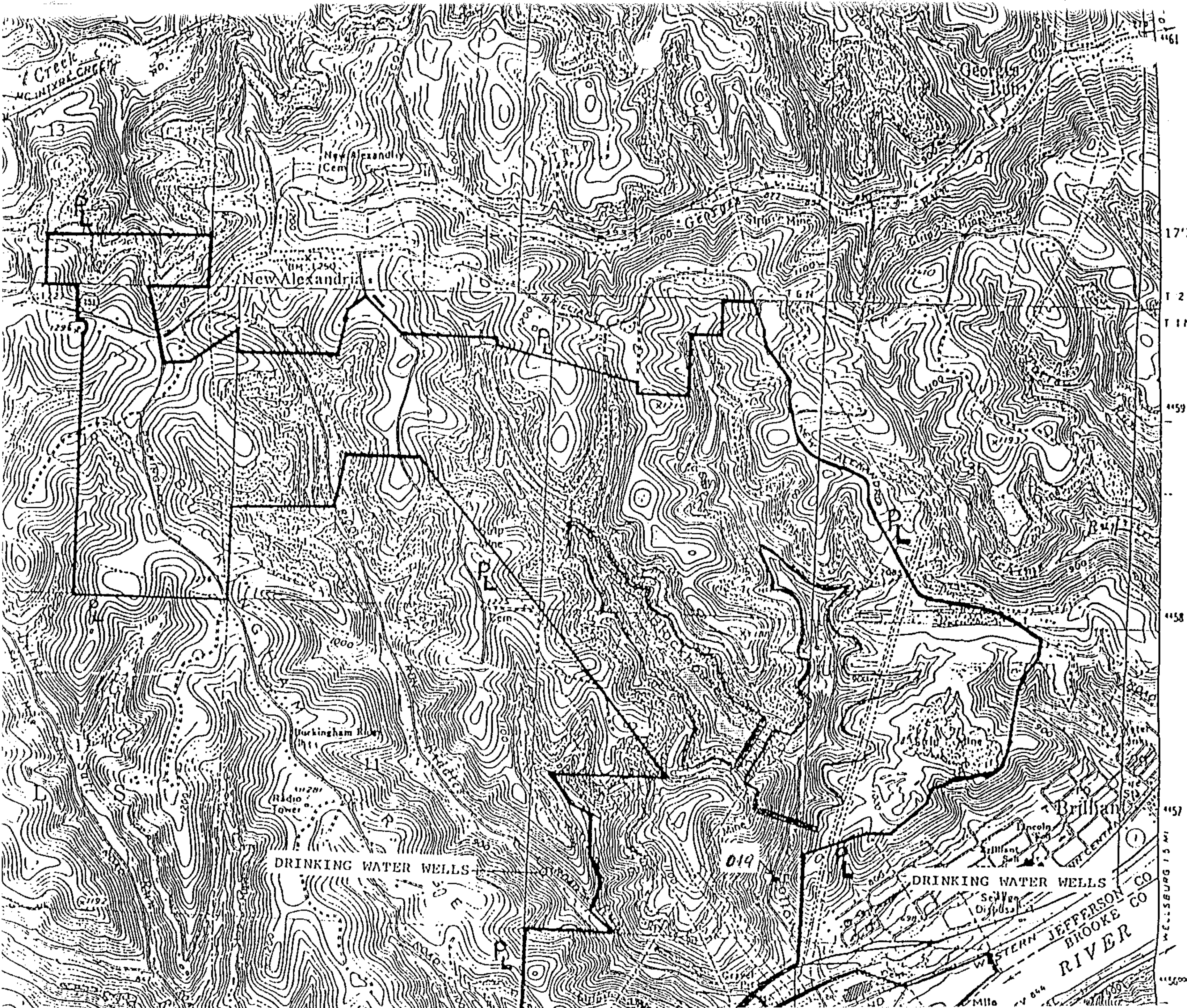

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DRINKING WATER WELLS
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EPA I.D. NUMBER (copy from Item 1 of Form 1): OH0012581

Form Approved
OMB No. 2040-0086
Approval expires 5-31-92

FORM 2C NPDES

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
001	40	15	06	80	38	50	Ohio River
019	40	15	38	80	38	55	Blockhouse Hollow
INTAKE	40	15	05	80	38	51	from Ohio River (Units 1,2)
INTAKE	40	15	29	80	39	22	from Ohio River (Unit 3)

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1
001	Units 1,2 Once Through Cooling Water Discharge	1148.63 MGD	Screening Disinfection Discharge to Surface Water Dechlorination	1-T 2-F 4-A 2-E
019	Fly Ash Pond Discharge	11.59 MGD	Sedimentation Neutralization (Natural) Chemical Oxidation (Natural) Chemical Precipitation (Natural) Skimming Discharge to Surface Water	1-U 2-K 2-B 2-C No Code 4-A
	Sources: (See Appendix 1 Flow Diagram)			
	- Fly Ash Sluice	9.28 MGD	Sedimentation	1-U
	- Rainfall Runoff	1.66 MGD	Neutralization (Natural)	2-K
	- Tidd PFBC Plant Wastewater	0.44 MGD	Chemical Oxidation (Natural)	2-B
			Chemical Precipation (Nat.)	2-C
			Skimming	No Code
			Discharge to Surface Water	4-A
	- Bottom Ash/Pyrites Sluice	4.14 MGD	All Treatment Processes	
	- Wastewater Sumps	7.99 MGD	listed above for fly ash	
	- Coal Pile Runoff	0.05 MGD	sluice plus reuse of	
	- Cooling Tower Blowdown	1.50 MGD	treated effluent	4-C
	- rainfall runoff	0.11MGD		

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C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☐ YES *(complete the following table)* ☒ NO *(go to Section III)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(s) CONTRIBUTING FLOW *(list)*	3. FREQUENCY		4. FLOW				
		a. DAYS PER WEEK *(specify average)*	b. MONTHS PER YEAR *(specify average)*	a. FLOW RATE *(in mgd)*		b. TOTAL VOLUME *(specify with units)*		c. DURATION *(in days)*
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	
NA	NA	NA	NA	NA	NA	NA	NA	NA

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☒ YES *(complete Item III-B)* ☐ NO *(to to Section IV)*

B. Are the limitations in the applicable effluent guideline expressed in terms of production *(or other measure of operation)*?

☐ YES *(complete Item III-C)* ☒ NO *(go to Section IV)*

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. AFFECTED OUTFALLS *(list outfall numbers)*
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	
NA	NA	NA	NA

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES *(complete the following table)* ☒ NO *(go to Item IV-B)*

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
	a. NO.	b. SOURCE OF DISCHARGE		a. REQUIRED	b. PROJECTED
NA		NA	NA	NA	NA

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs *(or other environmental projects which may affect your discharges)* you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. ☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

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EPA I.D. NUMBER (copy from Item 1 of Form 1): OH0012581

OMB No. 2040-0086
Approval expires 5-31-92

FORM 2C NPDES

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
006	40	15	09	80	38	46	Riddles Run
008	40	14	40	80	39	16	Ohio River

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1
006	Units 1, 2 Sewage Treatment Plant (STP)	0.019 MGD	Screening	1-T
			Pre-Aeration	3-E
			Aerobic Digestion	5-A
			Activated Sludge	3-A
			Sedimentation	1-U
			Flocculation	1-G
			Disinfection (Chlorine)	2-F
			Slow Sand Filtration	1-V
			Dechlorination	2-E
			Discharge	4-A
008	Unit 3 Sewage Treatment Plant	0.012 MGD	Grinding	1-L
			Screening	1-T
			Pre-aeration	3-E
			Aerobic Digestion	5-A
			Activated Sludge	3-A
			Sedimentation	1-U
			Flocculation	1-G
			Skimming	No Code
			Rapid Sand Filtration	1-R
			Disinfection (Chlorine)	2-F
			Dechlorniation	2-E
			Discharge to surface water	4-A

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FORM 2C NPDES

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
009	40	15	09	80	38	50	Riddles Run
010	40	15	00	80	38	55	Ohio River
011	40	14	36	80	39	19	Ohio River
012	40	14	33	80	39	21	Ohio River
013	40	14	40	80	39	30	Salt Run

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
009	Storm Water Outfall: Storm runoff from roadway/parking lot in front of Unit 1-2 building.	Avg 0.001 MGD Max 0.02 MGD	Flow from 10 yr/24 hr storm Discharge to Surface water	4-A	
010	Storm Water Outfall: Small drainage area on south side of Unit 1-2 plant building	Avg 0.0003 MGD Max 0.007 MGD	Flow from 10 yr/24 hr storm Discharge to Surface Water	4-A	
011	Storm Water Outfall: Storm runoff from N.E. of Unit 3 plant building.	Avg 0.003 MGD Max 0.09 MGD	Flow from 10 yr/24 hr storm Discharge to Surface Water	4-A	
012	Storm Water Outfall: Storm runoff from N.E. of Unit 3 plant building.	Avg 0.01 MGD Max 0.25 MGD	Flow from 10 yr/24 hr storm Discharge to Surface Water	4-A	
013	Storm Water Outfall: Storm runoff from Unit 3 road and parking lot area	Avg 0.02 MGD Max 0.66 MGD	Flow from 10 yr/24 hr storm Discharge to Surface Water	4-A	
	NOTE: The above 5 outfalls are currently listed as part of the existing NPDES permit.				

OFFICIAL USE ONLY *(effluent guidelines sub-categories)*

EPA I.D. NUMBER (copy from Item 1 of Form 1)
OH0001228181

OMB No. 2040-0086
Approval expires 5-31-92

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U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

FORM 2C NPDES — EPA

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE 1. DEG.	2. MIN.	3. SEC.	C. LONGITUDE 1. DEG.	2. MIN.	3. SEC.	D. RECEIVING WATER (name)
014	40	15	07	80	41	48	Riddles Run
015	40	14	57	80	41	58	Ohio River
016	40	14	42	80	42	18	Salt Run
018	40	14	28	80	42	23	Ohio River

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW a. OPERATION (list)	b. AVERAGE FLOW (include units)	3. TREATMENT a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1
014	Storm Water Outfall: storm runoff from a small area adjacent to Units 1 and 2 STP	Avg 0.000 3MGD Max 0.008 MGD	Flow from 10 yr/24 hr Storm Discharge to Surface Water	4-A
015	Storm Water Outfall: storm runoff from a small area adjacent to Outfall 010	Avg 0.0009 MGD Max 0.024 MGD	Flow from 10 yr/24 hr Storm Discharge to Surface Water	4-A
016	Storm Water Outfall: storm runoff from a small area in front of the Ware-house just south of the Unit 3 coal yard	Avg 0.0002 MGD Max 0.006 MGD	Flow from 10 yr/24 hr Storm Discharge to Surface Water	4-A
018	Storm water storm runoff from a small area adjacent on the east side of the Unit 3 cooling tower	Avg 0.0003 MGD Max 0.008 MGD	Flow from 10 yr/24 hr Storm Discharge to Surface WAter	4-A
	NOTE: The above 4 storm water outfalls currently listed in the existing NPDES permit			

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CONTINUE ON REVERSE

EPA Form 3510-2C (8-90)

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided. NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
Uranium Strontium Zirconium	These may be found in trace quantities in bottom ash or fly ash due to their presence in coal. No analytical data exists for this particular plant.	Vanadium	May be found in bottom ash or fly ash due to its presence in coal.
Asbestos	This may be present in trace quantities from insulating material in some older equipment. Proper precautions for containment and disposal are taken when working with equipment.		

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

[X] YES *(list all such pollutants below)* [ ] NO *(go to Item VI-B)*

Cardinal Plant does not use or manufacture any of these substances, nor does it use any substance that is known to specifically contain any of them. However, it should be noted that all three units at Cardinal Plant are coal-fired units. Many of the pollutants listed in Item V-C may be naturally occurring substances in coal or may be present in trace quantities in the plant intake water. Therefore, it must be concluded, due to coal use and the intake water, that there is a possibility of minute trace quantities of any Part V-C pollutant being present in the plant discharges.

It should also be noted that chloroform was detected at Outfall 006. There is no reason for this pollutant to be present. It is possible that this trace concentration was recorded through minor fluctuation in analytical equipment which are extremely sensitive at low concentrations.

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☒ YES *(identify the test(s) and describe their purposes below)* ☐ NO *(go to Section VIII)*

Whole effluent toxicity testing was conducted on a 24 hour composite and grab sample of Outfall 019 (fly ash pond discharge) taken during an Ohio EPA NPDES compliance inspection on December 16, 1991. Samples were shipped per U.S. EPA guidelines to Biological Monitoring Inc., Blacksburg, Virginia. Static 48-hour acute tests using **Daphnia pulex** and **Pimephales promelas** were conducted using 100% effluent per U.S. methods. For both test organisims, there was 100% survival after 48 hours. Control results were identical. Similar 48-hour acute tests were conducted using grab samples from the Ohio River (upstream of Outfall 019) and the Outfall 019/Ohio River mixing zone. Results of these tests were identical to Outfall 019 results described above. Laboratory bench sheets for these tests are provided in Appendix 9.
Ohio EPA staff collected similar samples and performed 48-hour static acute tests. Results of these tests are given in Appendix 10

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☐ YES *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ NO *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
Aqua Tech Environmental Consultants	P.O. Box 76 Melmore, Ohio 44845	(419) 397-2659	All Part V except TSS, FLOW, TEMP, and pH.
NET-Gulf Coast Lab, Inc.	15199 Community Road Gulfport, MS 39503	(601) 863-2408	Radioactivity
Biological Monitoring, Inc	Blacksburg, Virginia	(703) 953-2821	Toxicity
John E. Dolan Engineering Laboratory	Groveport, Ohio	(614) 836-4199	Metals Appendix 4

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE *(type or print)*
Director and Vice President
Cardinal Operating Company

B. PHONE NO. *(area code & no.)*
(216) 456-5578

C. SIGNATURE
C A Mallen

D. DATE SIGNED
3/30/92

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:
5HW-13

AUG 30 1984

R. E. Wright, Environmental Affairs Director
Cardinal Operating Company
301 Cleveland Ave., S.W., P.O. Box 400
Canton, Ohio 44701

RE: Request for Information--Withdrawal of Part A
FACILITY NAME: Cardinal Plant
U.S. EPA ID NO.: OHD051139202

Dear Mr. Wright:

In a letter dated September 22, 1983, the United States Environmental Protection Agency Region V, requested you to submit additional information to support your request of June 30, 1983 for withdrawal of your hazardous waste permit application. A response to our letter was due on October 22, 1983. Since we have not yet received the additional information requested, our records will continue to show the above facility as a regulated hazardous waste management facility subject to the Resource Conservation and Recovery Act, as amended (RCRA), and regulations promulgated thereunder.

Based on the information that was submitted, your facility appears to store wastes generated on-site for fewer than 90 days as defined in 40 CFR Part 262.34 (enclosed). Please review these requirements to verify that your facility qualifies as an accumulation facility. If it does, and a permit is not required, please submit your determination in writing, signed and certified by an authorized person in accordance with 40 CFR Part 270.11 (enclosed), requesting that your application be withdrawn. If at any time since November 19, 1980, your operation included treatment, storage, or disposal of hazardous waste subject to 40 CFR Part 265, a closure plan must be filed with the withdrawal request. Requirements for closure are found in 40 CFR Part 265 Subpart G (enclosed).

If your review indicates that a permit is required, but certain information on your application is incorrect, please submit a revised Part A with the appropriate changes to this Regional Office. We will assume your facility requires a permit, if no response is received in this office within 30 days. Accordingly, we will continue to process your application.

Please contact the Regulatory Analysis and Information Unit at (312) 886-6148 for assistance, if you have any questions. Please refer to "Request for Information--Withdrawal of Part A," in all correspondence on this matter.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

Enclosures

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:
RCRA ACTIVITIES

APR 22 1982

R. H. Walton, Plant Manager
Cardinal Plant
P.O. Box B
Brilliant, Ohio 43913

RE: Interim Status Acknowledgement USEPA ID No. OHD 051 139 202
FACILITY NAME: CARDINAL PLANT

Dear Mr. Walton:

This is to acknowledge that the U.S. Environmental Protection Agency (USEPA) has completed processing your Part A Hazardous Waste Permit Application. It is the opinion of this office that the information submitted is complete and that you, as an owner or operator of a hazardous waste management facility, have met the requirements of Section 3005(e) of the Resource Conservation and Recovery Act (RCRA) for Interim Status. However, should USEPA obtain information which indicates that your application was incomplete or inaccurate, you may be requested to provide further documentation of your claim for Interim Status. Our opinion will be reevaluated on the basis of this information.

As an owner or operator of a hazardous waste management facility, you are required to comply with the interim status standards as prescribed in 40 CFR Parts 122 and 265, or with State rules and regulations in those States which have been authorized under Section 3006 of RCRA. In addition, you are reminded that operating under interim status does not relieve you from the need to comply with all applicable State and local requirements.

The printout enclosed with this letter identifies the limit(s) of the process design capacities your facility may use during the interim status period. This information was obtained from your Part A Permit application. If you wish to handle new wastes, to change processes, to increase the design capacity of existing processes, or to change ownership or operational control of the facility, you may do so only as provided in 40 CFR Sections 122.22 and 122.23.

As stated in the first paragraph of this letter, you have met the requirements of 40 CFR Part 122.23; your facility may operate under interim status until such time as a permit is issued or denied. This will be preceded by a request from this office or the State (if authorized) for Part B of your application. Please contact Arthur Kawatachi of my staff at (312) 886-7449, if you have any questions concerning this letter or the enclosure.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

4-20-82

Enclosure

cc: C. A. Heller

FACILITY NAME	EPA ID NUMBER
CARDINAL PLANT	OHD051139202

FACILITY OPERATOR

CARDIAL OPERATING COMPANY

FACILITY OWNER

OHIO POWER COMPANY UNIT 1

FACILITY LOCATION

ROUTE 7 SOUTH
BRILLIANT OH 43913

PROCESS CODE	DESIGN CAPACITY	UNIT OF MEASURE
T02	2260.000 ~~226000.00000~~	U
S04	825000.00000	G
~~S01~~	~~55000.00000~~	~~G~~
~~D83~~	~~825000.00000~~	~~G~~

KEY

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE
STORAGE:		
CONTAINER	S01	G OR L
TANK	S02	G OR L
WASTE PILE	S03	Y OR C
SURFACE IMPOUNDMENT	S04	G OR L
DISPOSAL:		
INJECTION WELL	D79	G,L,U, OR V
LANDFILL	D80	A OR F
LAND APPLICATION	D81	B OR G
OCEAN DISPOSAL	D82	U OR V
SURFACE IMPOUNDMENT	D83	G OR L
TREATMENT:		
TANK	T01	U OR V
SURFACE IMPOUNDMENT	T02	U OR V
INCINERATOR	T03	D,W,E, OR H
OTHER	T04	J,R,N,S,U,V

UNIT OF MEASURE
GALLONS
LITERS
CUBIC YARDS
CUBIC METERS
GALLONS PER DAY
LITERS PER DAY
TONS PER HOUR
METRIC TONS\HOUR
GALLONS\HOUR
LITERS\HOUR
ACRE-FEET
HECTARE-METER
ACRES
HECTARES
POUNDS\HOUR
KILOGRAMS\HOUR
TONS PER DAY
METRIC TONS\DAY

EPA

ACKNOWLEDGEMENT OF NOTIFICATION OF HAZARDOUS WASTE ACTIVITY
(VERIFICATION)

This is to acknowledge that you have filed a Notification of Hazardous Waste Activity for the installation located at the address shown in the box below to comply with Section 3010 of the Resource Conservation and Recovery Act *(RCRA)*. Your EPA Identification Number for that installation appears in the box below. The EPA Identification Number must be included on all shipping manifests for transporting hazardous wastes; on all Annual Reports that generators of hazardous waste, and owners and operators of hazardous waste treatment, storage and disposal facilities must file with EPA; on all applications for a Federal Hazardous Waste Permit; and other hazardous waste management reports and documents required under Subtitle C of RCRA.

EPA I.D. NUMBER ➤ OHD051139202 REACKNOWLEDGEMENT

CARDINAL PLANT
P O BOX 8
BRILLIANT OH 43913

INSTALLATION ADDRESS ➤

ROUTE 7 SOUTH
BRILLIANT OH 43913

EPA Form 8700-12B (4-80)

09/29/81

Please print or type with ELITE type (12 characters/inch) in the unshaded areas only.

Form Approved OMB No. 158-S79016
GSA No. 0246-EPA-OT

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO.

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

III. LOCATION OF INSTALLATION

PLEASE PLACE LABEL IN THIS SPACE

000234 AUG 22 80

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

DETACH

FOR OFFICIAL USE ONLY

COMMENTS: C

INSTALLATION'S EPA I.D. NUMBER	APPROVED	DATE RECEIVED (yr., mo., & day)
S F OHD051139202 T/A 2 C 1	A	800818

I. NAME OF INSTALLATION

CARDINAL PLANT

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 3301 CLEVELAND AVE. S.W.

CITY OR TOWN	ST.	ZIP CODE
4 CANTON	OH	44702

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 5 OHIO ROUTE 7

CITY OR TOWN	ST.	ZIP CODE
6 BRILLIANT	OH	43913

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title)	PHONE NO. (area code & no.)
2 WRIGHT RAY ENV. AFFAIRS DIR.	216-456-8173

V. OWNERSHIP

DETACH

A. NAME OF INSTALLATION'S LEGAL OWNER: 8 OHIO POWER AND BUCKEYE POWER COMPANIES

B. TYPE OF OWNERSHIP (enter the appropriate letter into box)

F = FEDERAL
M = NON-FEDERAL

M

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

- [X] A. GENERATION
- [X] B. TRANSPORTATION (complete item VII)
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only – enter "X" in the appropriate box(es))

- [ ] A. AIR
- [ ] B. RAIL
- [X] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION (complete item C)

C. INSTALLATION'S EPA I.D. NO.: OHD051139202

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

AUG 19 1980

CONTINUE ON RE

I.D. – FOR OFFICIAL USE ONLY

S												T/A	C
W	0	4	0	0	5	1	1	3	9	2	8	2	1
1	2										13	14	15

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F001	F003	F005			
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
P022	P105	P106	U002	U044	U133
37	38	39	40	41	42
U151	U154	U160	U165	U211	U220
43	44	45	46	47	48
U222	U226	U239			

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

[X] 1. IGNITABLE (D001) [X] 2. CORROSIVE (D002) [X] 3. REACTIVE (D003) [X] 4. TOXIC (D000)

X. CERTIFICATION

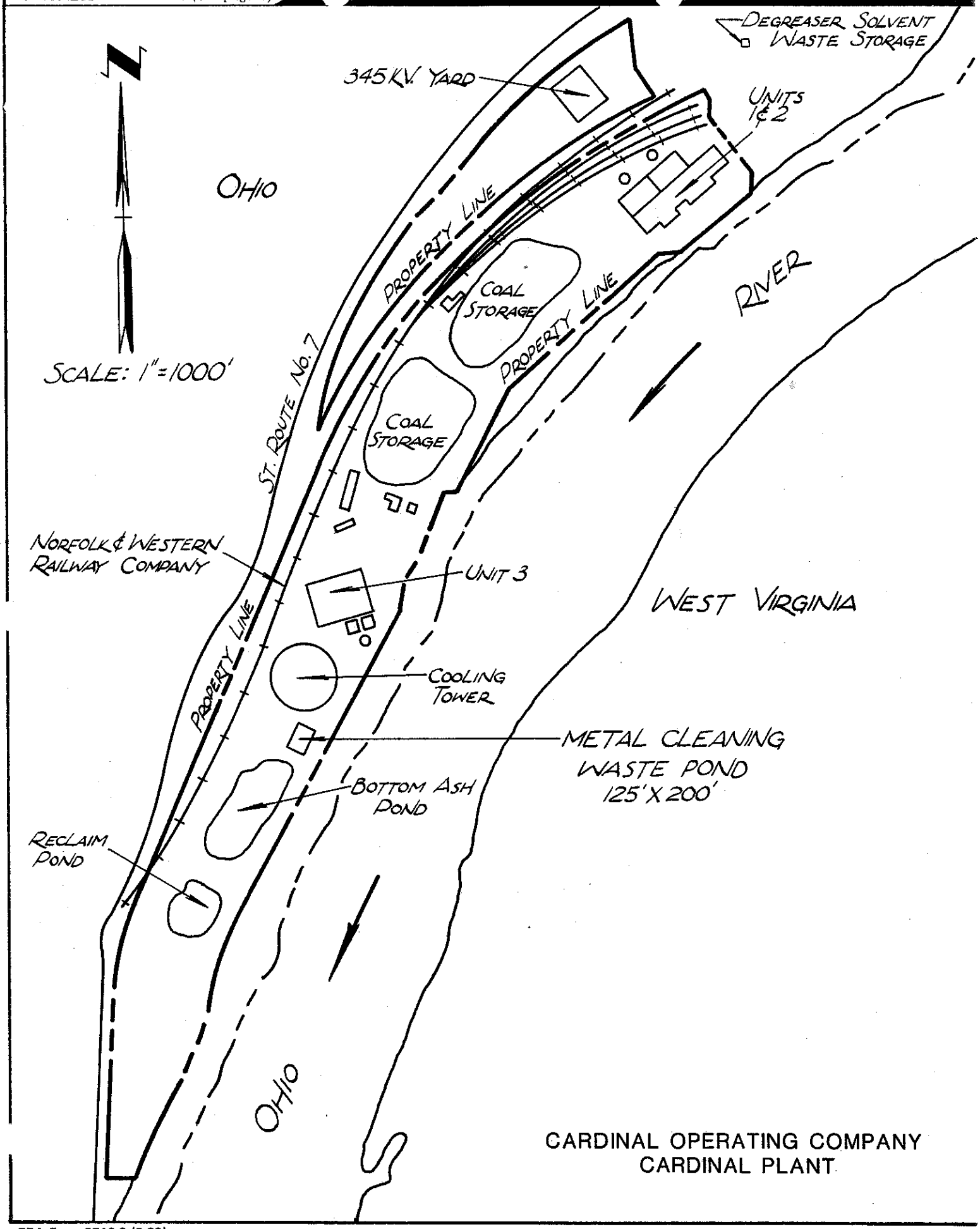
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
[signature]	Plant Manager	8–14–80

Form Approved OMB No. 158-S80004

508

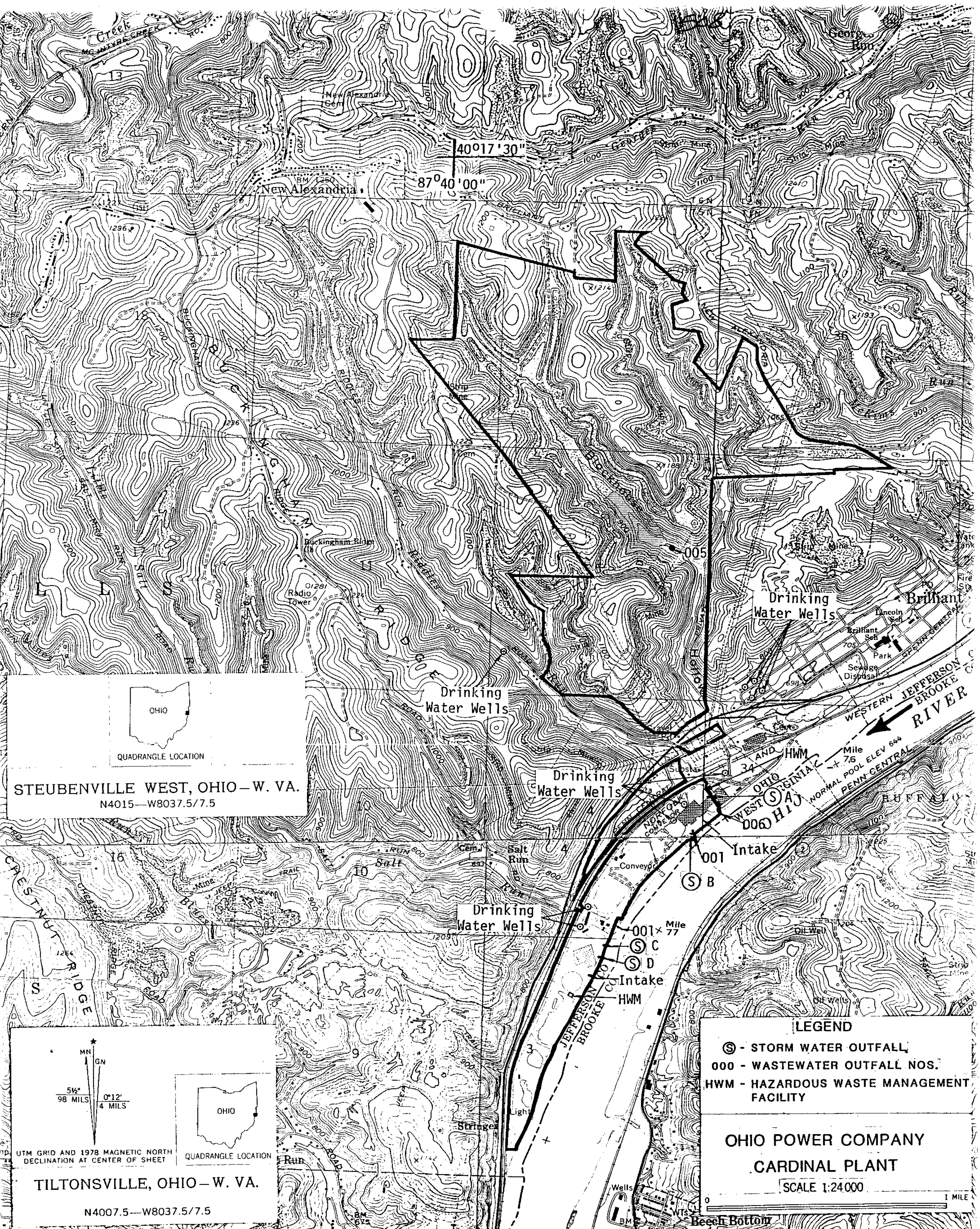
V. FACILITY DRAWING *(see page 4)*



CARDINAL OPERATING COMPANY
CARDINAL PLANT

ATTACHMENT
for
Form 1 Item X
Existing Environmental Permits
Cardinal Plant
Ohio Power Company

Permit #	Description
8ØØ11	Corps of Engineers permit for maintenance dredging.
1741Ø5Ø129 BØØ1	Unit #3 Aux. Boiler Air Permit to Operate
1741050129 BØØ2	Unit #3 Main Boiler Air Permit to Operate



LEGEND
Ⓢ - STORM WATER OUTFALL
000 - WASTEWATER OUTFALL NOS.
HWM - HAZARDOUS WASTE MANAGEMENT FACILITY
OHIO POWER COMPANY
CARDINAL PLANT
SCALE 1:24000
0
1 MILE
STEUBENVILLE WEST, OHIO—W. VA.
N4015—W8037.5/7.5
QUADRANGLE LOCATION
OHIO
TILTONSVILLE, OHIO—W. VA.
N4007.5—W8037.5/7.5
UTM GRID AND 1978 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
MN
GN
5½°
98 MILS
0°12'
4 MILS
40°17'30"
87°40'00"
Drinking Water Wells
Drinking Water Wells
Drinking Water Wells
Drinking Water Wells
Drinking Water Wells
005
001
006
001
Ⓢ A
Ⓢ B
Ⓢ C
Ⓢ D
Intake
Intake
HWM
HWM
OHIO RIVER
Mile 76
Mile 77
NORMAL POOL ELEV 644
WEST VIRGINIA
OHIO
JEFFERSON CO
BROOKE CO
Brilliant
New Alexandria
Beech Bottom
Salt Run
Conveyor
Radio Tower
Buckingham Ridge
PENN CENTRAL
Stringer

ATTACHMENT
for
RCRA Permit

Form 3 Item II A
Commercial Operation Startup Dates

CARDINAL PLANT
CARDINAL OPERATING COMPANY

Unit	Date
1	2/01/67
2	7/01/67
3	9/20/77

ATTACHMENT
for
RCRA Permit

Form 3 Item III B

Process Design Capacity of
Treatment, Storage, and Disposal
Facilities at Cardinal Plant

Ohio Power Company

The acid metal cleaning wastes are discharged to a surface impoundment designed for the management of this waste. While in this impoundment the waste is treated and stored. The waste may also be disposed of in the same impoundment. The three process codes describe the orderly treatment of one waste type in one facility rather than one waste type in three distinct facilities.

Re: Hazardous Waste Activity Status
U.S. EPA I.D. No. OHD051139202 G, TRS, PA-3, N
Ohio Permit No. 04-27-0226

April 1, 1985

R.E. Wright
Ohio Power Cardinal Plt
301 Cleveland Ave.
Canton, Ohio 44702

Dear R.E. Wright:

According to our records, your Ohio Hazardous Waste Installation & Operation Permit has expired. Prior to the expiration of that permit, you had informed and certified to the Ohio EPA that you no longer conducted hazardous waste activity for which a permit was required.

Therefore, this letter is to inform you that, based on the information you had submitted and an investigation by Agency staff, you will maintain the status of a generator only with less than 90 day storage.

You should continue to use the identification number assigned to you by the U.S. EPA for purposes of compliance with the Ohio EPA manifest, recordkeeping and reporting requirements for generators and transporters of hazardous waste as appropriate.

Should you have any questions concerning your current status, please contact the appropriate Ohio EPA District Office (see enclosed list).

Very truly yours,

Thomas E. Crepeau

Thomas E. Crepeau, Manager
Data Management Section
Division of Solid and Hazardous Waste Management

TEC/ds

Enclosure

cc: U.S. EPA, Region V
HWFB
D.O.

SEP 27 1984

C. A. Heller, Vice President
Ohio Power Company - Cardinal Plant
301 Cleveland Avenue, S.W.
P.O. Box 400
Canton, Ohio 43215

N

RE: Withdrawal of Pa
FACILITY NAME: Ohio
Cardi
U.S. EPA ID #: OHD 0

Dear Mr. Heller:

This Agency has been advised by the Ohio Environmen
(Ohio EPA) that the referenced facility is no longe
facility under Federal rules. The facility's curre status under the
Resource Conservation and Recovery Act (RCRA) is that of a generator
storing less than 90 days. This letter acknowledges your change in status.

Should you decide in the future to initiate storage of hazardo
greater than 90 days, and such storage is consiste
application, you must resubmit a Part A applicatio
initiation.

Should you purpose to initiate storage of hazardous
sistent with the original Part A application, or to
disposal of hazardous wastes, you must contact our
at least ten days prior to such initiation. Based o
proposed changes, we will advise you whether actual
a prerequisite for such changes, or whether submitta
your application is sufficient. Failure to resubmit
or to contact our office as mentioned above, would su
ment action. RCRA provides for civil penalties up to

If you have questions, please contact Rebecca Strom o
886-6194, for assistance.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

cc: Tom Carlisle, Ohio EPA
Cheryl Kaiser, Ohio EPA
R. E. Wright, Environmental Affairs Director
R. H. Walton, Plant Manager

bcc: Lisa Pierard
Part A File
Rebecca Strom

5HW-13:RStrom:PGrace:9-19-84

INITIALS / DATE	TYPIST	AUTHOR	STU #1 CHIEF	STU #2 CHIEF	STU #3 CHIEF		
	PG 9/19/84	BLS 9/19/84			DJB 9/27/84	9/27	9/27

This says "no longer" TSD. But what about between 1980 & 1984? There's no documents from EPA or OEPA that acknowledges that no TSD activity took place between Nov 1980 & 1984

Company claims they never treated stored or disposed but EPA & OEPA never acknowledged this claim.

Company says Protective File But EPA & OEPA never acknowledged this claim OHD 057 139 202

04-41-0226

RDINAL OPERATING COMPANY
301 CLEVELAND AVENUE, S.W.
CANTON, OHIO 44702

September 21, 1983

Thomas E. Crepeau, Manager
Ohio EPA
Division of Hazardous Materials Management
Permit & Manifest Records Section
361 East Broad Street
Columbus, Ohio 43215

Re: Permit Withdrawal Request
FACILITY NAME: Cardinal Plant
USEPA ID. NO.: OHD051139202
OEPA Permit No.: 04-41-0226

Dear Mr. Crepeau:

This letter is written in response to your letter of August 18, 1983 requesting a full explanation of our reasons for withdrawal of our permit and a certification statement signed by an authorized representative of our facility.

The Ohio Power Company previously notified the OEPA that it no longer intended to maintain its hazardous waste installation and operating permit and requested that Permit No. 04-41-0226 be terminated immediately. We also enclosed a copy of our Closure Plan. This notification resulted from a recently completed reassessment of our activities under federal and state hazardous waste management programs which determined that neither interim status under the federal program nor a Permit under the state program is required.

No hazardous waste has been generated at the facility other than waste cleaning solvents and an unexpected spill of a small amount of metallic mercury used for instrumentation. The waste cleaning solvents will either be accumulated on site for 90 days or less and then disposed off site or beneficially reused. The small amount of mercury was collected and disposed off site at an EPA approved hazardous waste disposal facility. No hazardous waste has been or will be treated, stored, or disposed of in the surface impoundment at this facility.

In addition, you will find attached the requested certification statement. We trust that our request for termination of our Permit will receive favorable action from the Ohio Hazardous Waste Facility Approval Board.

If there is any other information you require, please call R. E. Wright, (216) 456-8173, ext. 241.

Very truly yours,

CARDINAL OPERATING COMPANY

C. A. Heller
Vice President

CAH:kas
attachment

CERTIFICATION STATEMENT

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Permit Appl. No. 04-41-0226

Cardinal Plant
Facility Name

C. O'Keller
Signature of Executive Officer

Vice President
Title

September 21, 1983
Date

WHO SHOULD SIGN THE CERTIFICATION STATEMENT?

A. For a corporation: By a principal executive officer of at least the level of vice president;

B. For partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

C. For a municipality, State, Federal or other public facility: By either a principal executive officer or ranking elected official.

Note: Establishment of a hazardous waste facility without an effective permit is prohibited pursuant to Sections 3734.02 and 3734.11 of the Ohio Revised Code.

0427R

INTER-OFFICE COMMUNICATION

TO Paula Cotter, Enforcement Coordinator, DHMM DATE July 29, 1983

FROM: Mike Moschell, Division of Hazardous Materials Management, SEDO

SUBJECT: OHIO POWER'S CARDINAL PLANT, PERMIT WITHDRAWAL REQUEST

HWFAB received a request to withdraw the permit for the Cardinal Plant's metal cleaning waste (MCW) lagoon in Jefferson County. The letter of request states the only hazardous waste generated at Cardinal is solvent which I can only guess means the metal cleaning waste is not a hazardous waste. They have provided no sample results to us to confirm this, however. The closure plan was also included with the withdrawal request.

Questions:

1. Does the closure plan need to be submitted to the Director/Regional Administrator if the waste was non-hazardous?

2. Do they need to prove to us the MCW is non-hazardous?

3. Is an inspection now necessary prior to withdrawal/closure? Can I even do an inspection with the site in adjudication?

4. Groundwater monitoring has not been installed at the lagoon site. Can the be required as part of closure?

5. The Special Term and Condition in their permit was to provide documentation to HWFAB that the hypalon liner was properly installed. I have not been able to get confirmation from HWFAB that this condition has been fulfilled. What are the consequences if this documentation was not provided?

MM:dm

CARDINAL OPERATING COMPANY
301 CLEVELAND AVENUE, S.W.
CANTON, OHIO 44702

June 22, 1983

RCRA Activities
USEPA Region V
P.O. Box A - 3587
Chicago, IL 60690-3587

Re: Withdrawal of Part A (Protective Filing)
FACILITY NAME: Cardinal Plant
USEPA ID NO. : OHD051139202

Gentlemen:

On November 11, 1980, Ohio Power Company (OPCo) submitted to USEPA Region V a Part A Hazardous Waste Permit Application for the above facility in accordance with the Resource Conservation and Recovery Act. The application was submitted as a precautionary measure to obtain interim status for that facility in the event that certain wastes generated could be hazardous wastes.

No hazardous wastes have been generated at this facility other than waste cleaning solvents. The waste solvents will either be accumulated off site or beneficially reused. For this reason, OPCo is, by this letter, withdrawing its application for a Hazardous Waste Permit.

Very truly yours,

CARDINAL OPERATING COMPANY

C. A. Heller
Vice President

CAH:kas

CARDINAL OPERATING COMPANY
301 CLEVELAND AVENUE, S.W.
CANTON, OHIO 44702

Ohio Environmental Protection Agency
Hazardous Waste Facility Approval Board
P.O. Box 1049
Columbus, Ohio 43216

Attention: Robert Fragale

Re: Ohio Power Company
Cardinal Plant Permit No. 04-41-0226

Gentlemen:

Ohio Power Company hereby requests that its Hazardous Waste Facility and Operation Permit No. 04-41-0226 be terminated immediately. We applied for and received this Permit to temporarily store and treat metal-cleaning wastes in a surface impoundment. We recently completed a reassessment of our activities under federal and state hazardous waste management programs and have determined that neither interim status under the federal program nor a Permit under the state program is required.

No hazardous waste has been generated at the facility other than waste cleaning solvents. The waste cleaning solvents will either be accumulated on site for 90 days or less and then disposed off site or beneficially reused.

Enclosed is a copy of our letter to USEPA withdrawing our Part A Application For Interim Status under the federal program and a copy of the Facility Closure Plan for your files.

We trust that our request for termination of our Permit and the withdrawal from the state program will receive favorable action from the Board.

If there is any information you require, please call R. E. Wright at (216) 456-8173, ext. 241.

Very truly yours,

CARDINAL OPERATING COMPANY

C. A. Heller
Vice President

CAH:kas
enclosures

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

17

REPLY TO ATTENTION OF:

RCRA ACTIVITIES

C. A. Heller, Vice President
Cardinal Operating Company
301 Cleveland Avenue, S.W.
Canton, OH 44702

RE: Permit Application Withdrawal Letter
(Insufficient Information)
FACILITY NAME: Cardinal Plant
U.S. EPA ID NO.: OHD 051 139 202

Dear Mr. Heller:

This is to acknowledge receipt of your letter of June 22, 1983, requesting the withdrawal of your Part A Hazardous Waste Permit Application. Your request did not contain sufficient information to enable this office to concur with your determination. Your request must contain a detailed explanation why the application should be withdrawn. Also, if at any time, since November 19, 1980, your operation included treatment, storage, or disposal of hazardous waste subject to 40 CFR 265, a closure plan must be filed with the withdrawal request. Requirements for closure are found in 40 CFR Part 265, Subpart G (enclosed).

If no response is received in this office within 30 days, we will assume your facility requires a permit. Accordingly, we will continue to process your application.

Please do not hesitate to contact the Technical, Permits and Compliance Section at (312) 353-2197 for assistance, if you have any questions. Please refer to "Permit Application Withdrawal Letter, (Insufficient Information)," in all telephone contacts and correspondence on this matter.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

Enclosure

cc: R. H. Walton, Plant Manager
Cardinal Plant
P.O. Box B
Brilliant, OH 43913

"Send Enclosures for:
Recyclers
Store ≤ 90 days
OK

Call and ask about 90-Day & possible closure, also ask about how solvents are handled.

DH 7/7/83

American Electric Power System
OHIO POWER COMPANY
301 CLEVELAND AVE., S.W.
CANTON, OHIO 44701
(216) 456-8173

January 14, 1982

Ms. Peggy Vince
Hazardous Waste Facility Approval Board
P.O. Box 1049
361 East Broad Street
Columbus, Ohio 43216

Dear Ms. Vince:

As outlined in our recently received hazardous waste permits for our Cardinal and Muskingum River Power Plants the permittee shall supply further information under special terms and conditions. This correspondence is in response to that request.

The Hazardous Waste Facility Approval Board has issued permit #04-41-0226 for the hazardous waste facilities at the Cardinal Plant, Brilliant, Ohio. A special condition imposed by the Board is as follows:

> "The permittee shall submit verification to the Hazardous Waste Facility Approval Board that the hypalon liner was installed according to manufacturer's recommendations."

Our records indicate that the hypalon liner installed in the Cardinal Plant metal cleaning waste (MCW) pond was purchased by the A.E.P. Civil Engineering Division from Watersaver Company in December of 1978. The liner was installed by a service contractor, under the field supervision of the A.E.P. Construction Department, with the technical guidance of the Civil Engineering Division. The liner was anchored at the top of each dike by laying the hypalon sheet flat across the dike crest (a distance of about 10 feet), then burying this flat-lying expanse of liner beneath 2 feet of cover, which field personnel report to be bottom ash.

To provide confirmation that this anchorage system is appropriate and adequate, contact was made with a representative of Watersaver Company to inquire about their "manufacturer's recommendation." This manufacturer's representative indicated that any anchorage system capable of holding the liner in place without damage is acceptable, and noted that Watersaver suggests several alternate methods in their drawing number TLD-77. The representative was quick to add that their drawing provides only suggestions, and that the actual anchorage system most appropriate to a given job must be judged by the engineer who designs the pond system. The Watersaver representative further noted that the fact that the Cardinal Plant MCW pond liner had stayed in place for several years was ample evidence of the appropriateness of the anchorage technique selected by our engineer.

Thus, the liner manufacturer has indicated that the anchorage technique employed at the Cardinal Plant MCW pond meets the requirements of their recommendations.

Furthermore, the concern of the liner installation was prompted by misinterpretation. During the inspection it was explained to Mr. Stephen Hamlin that upon one previous occasion bottom ash was deposited near the MCW pond. The bottom ash sloughed into the pond and caused the material covering the liner to be deposited in the pond. It must be emphasized, however, that this was a one-time operational error that was corrected and in no way affected the integrity of the hypalon liner, the dike that supported the liner, or the ability of the liner to perform as designed. In addition, many new hypalon installations have no covering over the liner suggesting an optional requirement.

The Hazardous Waste Facility Approval Board has issued permit #04-84-0222 for the hazardous waste facilities at the Muskingum River Plant, Beverly, Ohio. A special condition imposed by the Board is as follows:

> "The permittee shall install an impermeable liner in its surface impoundment to eliminate any potential for hazardous waste contamination of the groundwater and shall report to the Hazardous Waste Facility Approval Board when said installation is completed."

The required liner was ordered by the A.E.P. Environmental Engineering Division from the Watersaver Company, and was installed in the Muskingum Plant MCW pond under the direct supervision of Mr. T.E. Webb, a licensed professional engineer. A technical representative from the Watersaver Company, Mr. L. Embrey, was also present during the critical phases of the installation operation.

Further documentation of the liner installation is provided by the attached drawing, numbered 024-811207 as issued by the A.E.P. Survey and Mapping Section, and numbered CE-SK-811229-1 as revised by the A.E.P. Civil Engineering Division.

Should you have any further questions, please contact me at (216) 456-8172, ext. 241.

Sincerely yours,

R. E. Wright
Environmental Affairs Director

REW/JDL:kas
attachments

American Electric Power System
OHIO POWER COMPANY

GENERAL OFFICE
301 CLEVELAND AVE., S.W.
CANTON, OHIO 44701
(216) 456-8173

July 16, 1981

Permit Contact (5EP)
RCRA Activities
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Dear Sir or Madam:

Re: RCRA Part A Permit Application Revision

This letter and the attachments transmit revisions to the RCRA hazardous waste permit application Part A for Cardinal Plant, a steam electric power generating plant located near the small town of Brilliant, Ohio. The EPA I.D. No. for this Plant is OHD051139202. The Cardinal Plant is owned by the Ohio Power Company, a part of the American Electric Power System, and Buckeye Power Company. The original Part A permit application was submitted to the USEPA on November 17, 1980.

Since we will not dispose of any hazardous waste on the Cardinal Plant property, we hereby submit a revised Part A RCRA permit application reflecting this change. All hazardous waste from the plant will be disposed of at an off-site licensed hazardous waste management facility.

As indicated in the directions for Form 3 under Item II, when submitting a revised application, only those items for which changes are requested and Items I, IX, and X must be submitted. It is not necessary to resubmit information for other items that will not change.

Your attention in this matter would be appreciated.

Sincerely,

R E Wright DLB

R. E. Wright
Environmental Affairs Director

REW:kas
Attachment

SUB. PART A

JUL 20 1981

JUL 20 1981

ATTACHMENT
for
RCRA Permit

Form 3 Item III B

Process Design Capacity of
Treatment, Storage, and Disposal
Facilities at Cardinal Plant

Ohio Power Company

EPA Identification No. OHD 051139202

The acid metal cleaning wastes (D007) are discharged to a surface impoundment designed for the management of this waste. While in this impoundment, the waste is treated and stored. The waste is not disposed of on site. The two process codes describe the orderly treatment of one waste type in one facility rather than one waste type in two distinct facilities. The solvent (D001) is reclaimed.

ATTACHMENT
for
RCRA Permit

Form 3 Item III B

Process Design Capacity of
Treatment, Storage, and Disposal
Facilities at Cardinal Plant

Ohio Power Company

The acid metal cleaning wastes are discharged to a surface impoundment designed for the management of this waste. While in this impoundment the waste is treated and stored. The waste may also be disposed of in the same impoundment. The three process codes describe the orderly treatment of one waste type in one facility rather than one waste type in three distinct facilities.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

22 SEP 1983

REPLY TO ATTENTION OF:
5HW-13

Ray Wright, Environmental Affairs Director
Cardinal Operating Company
301 Cleveland Avenue, S.W.
P. O. Box 400
Canton, Ohio 44702

RE: Permit Application Withdrawal Letter
(Insufficient Information)
FACILITY NAME: Cardinal Plant
U.S. EPA ID NO.: OHD 051 139 202

Dear Mr. Wright:

This is to acknowledge receipt of your letter of June 30, 1983, requesting the withdrawal of your Part A Hazardous Waste Permit Application. Your request did not contain sufficient information to enable this office to concur with your determination. Your request must contain a detailed explanation why the application should be withdrawn. Also, if at any time, since November 19, 1980, your operation included treatment, storage, or disposal of hazardous waste subject to 40 CFR 265, a closure plan must be filed with the withdrawal request. Requirements for closure are found in 40 CFR Part 265, Subpart G (enclosed).

If no response is received in this office within 30 days, we will assume your facility requires a permit. Accordingly, we will continue to process your application.

Please do not hesitate to contact the Technical, Permits and Compliance Section at (312) 353-2197 for assistance, if you have any questions. Please refer to "Permit Application Withdrawal Letter, (Insufficient Information)," in all telephone contacts and correspondence on this matter.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

Enclosure

cc: C. A. Heller, Vice President
R. H. Walton, Plant Manager

file

INTER-OFFICE COMMUNICATION

TO Jim Flautt, Division of Solid & Hazardous Waste Managment DATE May 2, 1984

FROM: Patrick Gorman, Division of Solid & Hazardous Waste Management, SEDO

SUBJECT: PERMIT WITHDRAWALS IN SEDO

In regards to your April 19, 1984 IOC requesting a written response to permit withdrawals requests, we offer the following:

1. Columbus & Southern, Conesville Generating Station - 04-16-0253; testing has shown the boiler cleaning waste to be non-hazardous and the small amounts of solvents they generate are being recycled. We see no problem in processing their withdrawal.

2. Columbus & Southern, Poston Generating Station - 04-05-0254; an identical situation as the above. Same recommendation.

3. Cyclops Corporation - E.G. Smith Division - 04-30-0564; this facility began closure improperly and has been recommended for an enforcement referral for noncompliance with financial responsibility regulations. Also, we have yet to receive a formal letter requesting withdrawal. We recommend you not process this request until the above items are worked out.

4. General Electric Company - Dover - 04-79-0166; there should be no problem in processing this request.

5. General Tire & Rubber - Newcomerstown - 04-79-0428; there should be no problem in processing this request.

OH D051 139202 6, TRS, TSD, PA, 9

6. Ohio Power Company - Cardinal Plant - 04-41-0226; Director's Findings and Orders should soon be signed which call for OPCo not to treat, store, or dispose. Testing done has shown the waste to be non-hazardous. Processing of the withdrawal should be held up until the orders are signed. (orders signed)

7. Ohio Power Company - Gavin Plant - 04-27-0225; an identical situation as #6 above. Same recommendation.

8. Ohio Power Company - Muskingum River Plant - 04-84-0222; Director's Findings and Orders should soon be signed which call for partial closure only. The permit withdrawal request issue will therefore be moot.

9. Union Camp Corporation - Dover - 04-79-0214; this facility has withdrawn their withdrawal request. We have found compliance problems at the facility during our inspections.

PG:dm

RECEIVED
AUG 14 1984
WMD-RAIU
EPA, REGION V

RECEIVED
OHIO EPA
MAY 3 - 1984
DIV. HAZARDOUS MATERIALS MANAGEMENT

FORM GEN 1001

CARDINAL OPERATING COMPANY
301 CLEVELAND AVENUE, S.W.
P.O. BOX 400
CANTON, OHIO 44701

17 D

June 30, 1983

RECEIVED
JUL 05 1983
WASTE MANAGEMENT BRANCH
EPA, REGION V

RCRA Activities
U.S. EPA Region V
P.O. Box A-3587
Chicago, IL 60690-3587

Gentlemen:

Re: Withdrawal of Part A (Protective Filing)
FACILITY NAME: Cardinal Plant
U.S. EPA ID NO.: OHD051139202 PA, G, TR&, TSD, PAS&

In recent correspondence on above topic dated June 22, 1983, to you, the second paragraph should read:

"No hazardous wastes have been generated at this facility other than waste cleaning solvents. The waste solvents will be accumulated on site and disposed off site or beneficially reused. For this reason, OPCo, is by this letter, withdrawing its application for a Hazardous Waste Permit."

Please make this correction to your records.

I apologize for any inconvenience.

Very truly yours,

R. E. Wright

R. E. Wright
Environmental Affairs Director

REW:kas

RECEIVED
7/05/83

CARDINAL OPERATING COMPANY
301 CLEVELAND AVENUE, S.W.
CANTON, OHIO 44702

June 22, 1983

RCRA Activities
USEPA Region V
P.O. Box A - 3587
Chicago, IL 60690-3587

RECEIVED
JUN 28 1983
WASTE MANAGEMENT BRANCH
EPA, REGION V

Re: Withdrawal of Part A (Protective Filing)
FACILITY NAME: Cardinal Plant
USEPA ID NO. : OHD051139202

PAG, TRS, TSD, PAS, I

Gentlemen:

On November 11, 1980, Ohio Power Company (OPCo) submitted to USEPA Region V a Part A Hazardous Waste Permit Application for the above facility in accordance with the Resource Conservation and Recovery Act. The application was submitted as a precautionary measure to obtain interim status for that facility in the event that certain wastes generated could be hazardous wastes.

No hazardous wastes have been generated at this facility other than waste cleaning solvents. The waste solvents will either be accumulated off site or beneficially reused. For this reason, OPCo is, by this letter, withdrawing its application for a Hazardous Waste Permit.

Very truly yours,

CARDINAL OPERATING COMPANY

C. A. Heller
Vice President

CAH:kas

RECEIVED 6/28/83

(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

S: F O H D 0 5 1 1 3 9 2 0 2 | T/A: | C: 1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

C: 8 | YR. | MO. | DAY — FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

☐ 2. NEW FACILITY *(Complete item below.)*

YR. | MO. | DAY — FOR NEW FACILITIES PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C).*

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below):* A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S: C DUP | T/A: | C: 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G	
X-2	T 0 3	20	E	
1	S 0 4	8.25 x 10^5*	G	
2	T 0 2	8.25 x 10^5*	G	
3	S 0 1	55	G	
4	N A	NA		
5	N A	NA		
6	N A	NA		
7	N A	NA		
8	N A	NA		
9	N A	NA		
10				

JUL 20 1981

JUL 20 1981

CONTINUE ON REVER

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic or toxic contaminant** entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate **all** the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.
2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
X-2	D002	400	P	T03 D80	
X-3	D001	100	P	T03 D80	
X-4	D002				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)															FOR OFFICIAL USE ONLY													
S												T/A	C		S											T/A	C	
W	O	H	D	0	5	1	1	3	9	2	0	2		1	W	D	U	P									2	DUP
1	2											13	14	15	1	2										13	14	15	23 - 26

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code) 23 - 26	B. ESTIMATED ANNUAL QUANTITY OF WASTE 27 - 35	C. UNIT OF MEASURE (enter code) 36	D. PROCESSES 1. PROCESS CODES (enter) 27 - 29 / 27 - 29 / 27 - 29 / 27 - 29	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D007	1.48×10^7	P	S04 T02 NA NA	NA
2	F001	129.5	P	S01 NA NA NA	NA
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

JUL 20 1981

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WAST *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

NA

EPA I.D. NO. *(enter from page 1)*

													T/A	C
F														6
1	2											13	14	15

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground–level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
40 14 05 2 (65-66, 67-68, 69-71)	080 39 01 2 (72-74, 75-76, 77-79)

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

☒ B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
C Ohio Power Company - Unit 1 E Buckeye Power Company - Units 2 and 3	216 456 8173 614 846 5757

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
C 301 Cleveland Avenue S.W. F 6677 Busch Blvd., P.O. Box 29149	C Canton G Columbus	OH OH	44702 43229

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
C.A. Heller, President, Ohio Power Co.	C A Heller	7/15/81
C.E. Jack, Vice President, Buckeye Power	Charlie F. Jack	7/15/81

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
C. A. Heller, Vice President of Cardinal Operating Company	C A Heller	July 16, 1981

ORIGINAL SUBMITTAL

Please print or type in the unshaded areas only (fill–in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA — EPA — U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F O H D 0 5 1 1 3 9 2 0 2 — T/A C: 1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

[ ] 2. NEW FACILITY *(Complete item below.)*

C: 8 — YR. 67 MO. 02 DAY 01 — FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)* See Attachment

YR. ___ MO. ___ DAY ___ — FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS NA

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C — DUP — T/A C: 1

LINE NUMBER	A. PROCESS CODE (from list above)	B.1. AMOUNT (specify)	B.2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B.1. AMOUNT	B.2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5	N A	NA		
X-2	T 0 3	20	E		6	N A	NA		
1	S 0 4	8.25×10^5*	G		7	N A	NA		
2	T 0 2	8.25×10^5*	G		8	N A	NA		
3	D 8 3	8.25×10^5*	G		9	N A	NA		
4	S 0 1	55	G		10	N A	NA		

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*See Attachment

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CONTINUE ON REVERSE

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

NA

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** — For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non-listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list. *Form Approved OMB No. 158-S80004*

EPA I.D. NUMBER (enter from page 1)															FOR OFFICIAL USE ONLY														
W	O	H	D	0	5	1	1	3	9	2	0	2	T/A	C	W			D	U	P			T/A	C	2	D	U	P
1	2											13	14	15	1	2							13	14	15	23			26

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D007	1.48×10^7	P	S04 T02 D83 NA	NA
2	F001	129.5	P	S01 NA NA NA	NA
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
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21					
22					
23					
24					
25					
26					

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Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

NA

EPA I.D. NO. *(enter from page 1)*

F 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground--level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
40 14 05 2	080 39 01 2

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

X B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
C Ohio Power Company - Unit 1 E Buckeye Power Company - Units 2 and 3	216 456-8175 614-846-5757

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
C 301 Cleveland Avenue S.W.	C Canton	OH	44702
F 6677 Busch Blvd., P.O. Box 29149	G Columbus	OH	43229

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
C.A. Heller, President, Ohio Power Co.	C A Heller	November 11, 1980
C. F. Jack, Vice President, Buckeye Power, Inc.	Charlie F. Jack	November 7, 1980

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
C.A. Heller, Vice President of Cardinal Operating Company	C A Heller	November 11, 1980

Please print or type in the unshaded areas only
Fill–in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL — EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F OHD051139202 D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill–in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill–in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold–faced terms.

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X			D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP Cardinal Plant [illegible]

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)		
Walton R. H. Plant Manager	614	598	4164

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

P. O. Box B

B. CITY OR TOWN	C. STATE	D. ZIP CODE
Brilliant	OH	43913

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

Route 7 South

B. COUNTY NAME

efferson

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
Brilliant	OH	43913	Ø81

EPA Form 3510-1 (6-80)

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CONTINUE ON REVERSE

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VII. SIC CODES (4-digit, in order of priority)

	A. FIRST	B. SECOND
	4911 (specify) Electric Services	NA (specify) NA
	C. THIRD	**D. FOURTH**
	NA (specify) NA	NA (specify) NA

VIII. OPERATOR INFORMATION

A. NAME: Cardial Operating Company

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☒ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.) F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify): P (specify) Corporation

D. PHONE (area code & no.): 614 598 4164

E. STREET OR P.O. BOX: P.O. Box B

F. CITY OR TOWN: Brilliant

G. STATE: OH

H. ZIP CODE: 43913

IX. INDIAN LAND: Is the facility located on Indian land? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

	A. NPDES (Discharges to surface water)	D. PSD (Air Emissions from Proposed Sources)
	N: OH B00 9 * AD	P: NA
	B. UIC (Underground Injection of Fluids)	**E. OTHER (specify)**
	U: NA	Q: OH B01 7 * AD (specify) NPDES Permit for Unit 3 Sewage Treatment Plant
	C. RCRA (Hazardous Wastes)	**F. OTHER (specify)**
	R: NA	(specify) See Attachment

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. F9;B/50

XII. NATURE OF BUSINESS (provide a brief description)

Electric Generating Station - Units 1 and 2 (590 MW coal-fired units each) and Unit 3 (615 MW coal-fired unit), all units have electrostatic precipitators, and the latter unit has a cooling tower. Unit 1 is owned by the Ohio Power Company and units 2 and 3 are owned by the Buckeye Power Company.

F9;A
51

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Vice President of C. A. Heller, Cardinal Operating Company	C A Heller	November 11, 80

COMMENTS FOR OFFICIAL USE ONLY

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004 - 500

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: R O H D Ø 5 1 1 3 9 2 Ø 2 3 1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)* See Attachment

C	YR.	MO.	DAY
8	6 7	Ø 2	Ø 1

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

NA

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A 3 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5	NA	NA		
X-2	T03	20	E		6	NA	NA		
1	S04	825,000,000	G		7	NA	NA		
2	T02	~~825,000,000~~ 226,000	~~U~~		8	NA	NA		
3	D83	825,000,000	G		9	NA	NA		
4	S01	55,000	G		10	NA	NA		

*See Attachment

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III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES — USE FOR DESCRIBING OTHER PROCESSES *(code "Z ___")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

NA

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non-listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE
POUNDS	P
TONS	T

METRIC UNIT OF MEASURE	CODE
KILOGRAMS	K
METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item (I) to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item (I) to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.
2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESSES 1. PROCESS CODES *(enter)*	D. PROCESSES 2. PROCESS DESCRIPTION *(if a code is not entered in D(1))*
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)														FOR OFFICIAL USE ONLY											
W	O	H	D	Ø	5	1	1	3	9	2	Ø	2	T/A 3	C 1	W	DUP								T/A 3	C 2	DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D Ø Ø 7	74ØØØØ	T	S Ø 4 T Ø 2 D 8 3 N A	NA
2	F Ø Ø 1	1259ØØ	P	S Ø 1 N A N A N A	NA
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
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Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

NA

EPA I.D. NO. (enter from page 1)

	T/A	C
F OHDØ511392Ø2	3	6

F6:B / 55

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (*see instructions for more detail*).

VI. PHOTOGRAPHS

All existing facilities must include photographs (*aerial or ground—level*) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (*see instructions for more detail*). F6:B/56

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)			LONGITUDE (degrees, minutes, & seconds)		
4Ø	14	~~Ø52~~ 52Ø	Ø8Ø	39	~~Ø12~~ 12Ø

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

X B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
Ohio Power Company - Unit 1	216-456-8173
Buckeye Power Company - Units 2 and 3	614-846-5757

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
301 Cleveland Avenue S.W.	Canton	OH	447Ø2
6677 Busch Blvd., P.O. Box 29149	Columbus	OH	43229

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
C.A. Heller, President, Ohio Power Co.	C A Heller	November 11, 198Ø
C. F. Jack, Vice President, Buckeye Power, Inc.	Charlie F. Jack	November 7, 198Ø

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
C.A. Heller, Vice President of Cardinal Operating Company	C A Heller	November 11, 198Ø

CONTINUE ON PAGE 5

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WAS..S (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

NA

EPA I.D. NO. (enter from page 1)

F	O	H	D	0	5	1	1	3	9	2	0	2	3	6

F6:B/55

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).* F6:B/56

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)			LONGITUDE (degrees, minutes, & seconds)		
40	14	05 20	080	39	01 20

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

X B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

	1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
C	Ohio Power Company - Unit 1	216 456 8173
E	Buckeye Power Company - Units 2 and 3	614 846 5757

	3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
C	301 Cleveland Avenue S.W.	Canton	OH	44702
F	6677 Busch Blvd., P.O. Box 29149	Columbus	OH	43229

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
C.A. Heller, President, Ohio Power Co.	C.A. Heller	November 11, 1980
C. F. Jack, Vice President, Buckeye Power, Inc.	Charlie F. Jack	November 7, 1980

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
C.A. Heller, Vice President of Cardinal Operating Company	C.A. Heller	November 11, 1980

ATTACHMENT
for
Form 1 Item X
Existing Environmental Permits
Cardinal Plant
Ohio Power Company

Permit #	Description
80011	Corps of Engineers permit for maintenance dredging.
1741050129 B001	Unit #3 Aux. Boiler Air Permit to Operate
1741050129 B002	Unit #3 Main Boiler Air Permit to Operate

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F

COMMENTS

II. FACILITY REPORTING APPLICATION

Please mark "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a subsequent application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (Place an "X" below and provide the appropriate data)

1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (see the boxes to left) See Attachment

2. NEW FACILITY (Complete item below.)

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION (Place an "X" below and enter the Facility's EPA I.D. Number in Item I above.)

1. FACILITY HAS INTERIM STATUS

2. FACILITY HAS A RCRA PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR OR GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal, or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	C

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G	
X-2	T 0 3	20	E	
1	S 0 4	8.2[illegible] x 10^5*	G	
2	T 0 2	8.25 x 10^5*	G	
3	D 8 3	8.25 x 10^5*	G	
4	S 0 1	55	G	

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
5	N A	NA		
6	N A	NA		
7	N A	NA		
8	N A	NA		
9	N A	NA		
10	N A	NA		

CONTINUE ON R

EPA Form 3510-3 (1-80)

*See Attachment

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

NA

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non–listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

[illegible] this page before completing if you have more than 26 wastes to list. Form Approved OMB No. [illegible]S80004.

EPA I.D. NUMBER (enter from page 1): W [illegible] — 1

FOR OFFICIAL USE ONLY: W DUP — 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D007	[illegible]3 x 10^7	P	S04	T02	D8[illegible]	NA	NA
2	F001	129.5	P	S01	NA	NA	NA	NA
3								
4								
5								
6								
7								
8								
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26								

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

(enter "A", "B", "C", etc. behind the "3" to identify photocopied pages)

...TION OF HAZARDOUS WASTES *(continued)*

USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

NA

EPA I.D. NO. *(enter from page 1)*

												T/M	C
													6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground-level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. F...ITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
4 0 | 1 4 | 0 5 2	0 8 0 | 3 9 | 0 1 2

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

X B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
E Ohio Power Company - Unit 1 E Buckeye Power Company - Units 2 and 3	2 1 6 - 4 5 6 - 8 1 7 3 6 1 4 - 8 4 6 - 5 7 5 7

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
E 301 Cleveland Avenue S.W.	C Canton	O H	4 4 7 0 2
F 6677 Busch Blvd., P.O. Box 29149	G Columbus	O H	4 3 2 2 9

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
C.A. Heller, President, Ohio Power Co.	C A Heller	November 11, 1980
C. F. Jack, Vice President, Buckeye Power, Inc.	Charlie F. Jack	November 7, 1980

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A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
C.A. Heller, Vice President of Cardinal Operating Company	C A Heller	November 11, 1980

Re: Jefferson County
Cardinal Plant
Hazardous Materials

Ohio Power Company
301 Cleveland Avenue, S.W.
Canton, Ohio 44702

September 20, 1983

Attention: Mr. Jim Ludwig

Dear Sir:

On September 13, 1983, Ohio EPA conducted an inspection of Ohio Power's Cardinal Power Plant for hazardous materials. At the time of inspection, the following problem areas were noted:

1. Groundwater Monitoring - No monitoring system had been installed in the vicinity of the surface impoundment. Ohio Power requested a waiver from this requirement.

2. Waste Analysis - Sludge in the lagoon was being tested for E. P. Toxicity. Please forward a copy of the results to this office when available.

3. Permit - Ohio Power has requested their permit for this facility be withdrawn pending outcome of the sludge testing. Before the permit is withdrawn, your staff should begin to mark the date of accumulation on each solvent drum to ensure no problems with storage of this waste are encountered. When the permit is withdrawn, the facility might be a small quantity generator for solvents, if you produce less than 1000 kilograms per month of solvent waste. As a small quantity generator, you are subject to the reduced requirements of that exemption. If you accumulate your waste in amounts greater than 1000 kilograms you become subject to the full generator requirements, until the waste is removed, which include:

    1. Documented inspections of the storage area (at least weekly).

    2. Emergency preparations and contingency planning.

    3. Labelling and marking containers.

    4. Manifest use and annual reporting.

    5. The 90 days limit to store on-site without a permit.

    6. Personnel training program with documentation.

Southeast District Office
2195 Front St., Logan, Ohio 43138 (614) 385-8501

I wish to thank you and your staff for the courtesy and cooperation extended to me during my visit. A copy of the inspection form is enclosed, please call if there are any questions.

Sincerely,

Michael Moschell

Michael Moschell
Inspector
Division of Hazardous Materials Management

MM:dm

cc: Paula Cotter, DHMM, CO

Re: Groundwater Monitoring Waiver Request
The Ohio Power Co.
(Cardinal Plant)
EPA I.D. No. OHD051139202
Ohio Permit Appl. No. 04-41-0226

October 28, 1982

R. H. Walton
Ohio Power Company, Cardinal Plant
P.O. Box B
Brilliant, Ohio 43913

Dear Mr. Walton:

Enclosed is a proposed Order of the Director denying your request for a waiver. The specific reasons for the action are indicated in the order.

Under Sections 119.06 and 119.07 of the Ohio Revised Code, this order will take effect on the date indicated unless you or a citizen objector requests an adjudication hearing within thirty (30) days of the date of issuance, as provided by Rule 3745-47 of the Ohio Administrative Code. At an adjudication hearing you may appear in person, or be represented by your attorney, or by such other representative as is permitted to practice before this Agency, or you may present your position, arguments, or contentions in writing. At the hearing you may present evidence and examine witnesses appearing for and against you. Requests for hearings shall be in writing and shall specify the issues of fact and law to be contested. Requests for hearings shall be sent to the Ohio EPA, Attn: Hearing Clerk, Box 1049, 361 East Broad Street, Columbus, Ohio 43216.

Very truly yours,

James F. Flautt

James F. Flautt, Acting Manager
Permits & Manifest Records Section
Division of Hazardous Materials Management

JFF/bsr

cc: Charles J. Wilhelm, Chief, DHMM
Peggy Vince, Executive Director, HWFAB
Jennifer Tiell, Assistant Legal Advisor
Russ Stein, Chief, Groundwater Section, PWS
Kathy Homer, U.S. EPA, Region V
Pat Gorman, SEDO, DHMM
Milton Rinehart, DHMM
John Shinnock, Counsel, Ohio Power Co.

BEFORE THE

OHIO ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

The Ohio Power Company Cardinal Plant Brilliant, Ohio	:	Director's Proposed Findings and Order

Pursuant to Section 3734.12(H) of the Revised Code and Rule 3745-50-31 of the Ohio Administrative Code and the Resource Conservation and Recovery Act and the regulations promulgated thereunder, the Director of the Ohio Environmental Protection Agency intends to make the following Findings and proposes to issue the following Order:

FINDINGS

1. On November 2, 1981, the Ohio Power Company, (hereinafter referred to as "the Company") submitted to Ohio EPA a "Groundwater Assessment Demonstration Report" (hereinafter referred to as "the Report") for its Cardinal Plant near Brilliant, Ohio. The Company submitted the Report in accordance with Rule 3745-55-90(C) of the OAC in order to demonstrate to the Director the facility's eligibility for a variance from the requirements of OAC Rules 3745-55-90 to 3745-55-94.

2. Rule 3745-55-90(A) of the OAC provides, in pertinent part, that before November 19, 1981, the owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste shall implement a ground water monitoring program capable of determining the facility's impact on the quality of ground water in the uppermost aquifer underlying the facility.

3. Rule 3745-55-90(C) of the OAC provides as follows:

> All or part of the ground water monitoring requirements of Rules 3745-55-90 to 3745-55-99 of the Administrative Code may be waived if the owner or operator can satisfactorily demonstrate to the director that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells (domestic, industrial, or agricultural) or to surface water. This demonstration shall be in writing, submitted to the director pursuant to the rules on waivers, and if approved, shall be kept at the facility. This demonstration shall be certified by a qualified geologist or geotechnical engineer and shall establish the following:

1) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:

a) a water balance of precipitation, evapotranspiration, runoff, and infiltration; and

b) unsaturated zone characteristics (i.e. geologic materials, physical properties, and depth to ground water); and

2) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:

a) saturated zone characteristics (i.e. geologic materials, physical properties, and rate of ground water flow); and

b) the proximity of the facility to water supply wells or surface water.

4. Upon review of the Report submitted by the Company the Director finds that it has not been established and demonstrated that the facility meets the criteria for a variance as set forth in Rule 3745-55-90(C) of the OAC:

1) The facility's hazardous waste surface impoundment is located above the sand and gravel aquifer. The silty clay blanket of soil which originally separated the impoundment from the uppermost aquifer has been removed by excavation.

2) A 36 mil. Hypalon liner was installed at the facility's hazardous waste surface impoundment to provide protection against leakage from the impoundment into the uppermost aquifer which is composed of sand and gravel valley-fill.

3) The facility's hazardous waste surface impoundment is located over a productive sand and gravel valley-fill aquifer, which is used for public and industrial water supply.

4) Based on demonstrations of the saturated and unsaturated zone characteristics at the facility, the potential for migration of wastes to the ground water is entirely dependent on the Hypalon liner.

5) Compliance with the requirements of OAC Rules 3745-55-90 to 3745-55-94 by the facility will enable the Director to monitor the physical integrity of the Hypalon liner which hydraulically separates the facility's impoundment from the groundwater system.

5. To date, the Company has not implemented a ground water monitoring program as required by OAC Rules 3745-55-90 to 3745-55-94.

ORDERS

1. The Company is hereby denied a variance from the ground water monitoring requirements of OAC Rules 3745-55-90 to 3745-55-94 for its Cardinal Plant, effective as of the date of these Orders.

2. The Company shall develop a plan for sampling and analysis of ground water in accordance with OAC Rule 3745-55-92. This plan shall be submitted to the Director within 30 days of the effective date of these Orders.

3. The Southeast District Office of OEPA shall be notified by the Company within seven days of the Company's start of well installation. The Company shall complete the installation of ground water monitoring wells as required by OAC Rule 3745-55-91 within 60 days of the effective date of these Orders.

4. The Company shall obtain and analyze samples from its ground water monitoring system within 90 days of the effective date of these Orders in accordance with OAC Rules 3745-55-90 to 3745-55-94. Thereafter, the Company shall collect and analyze samples on a quarterly basis as required by OAC Rule 3745-55-92.

Wayne S. Nichols
Director

Oct 23, 1982
Date

Groundwater Assessment Demonstration Report

for

Operating Company: Cardinal Operating Company

Facility: Cardinal Plant

Location: Brilliant, Ohio

I hereby certify that I have examined data regarding the facility, that I am familiar with the provisions of 40 CFR Part 265 and Ohio Rule 3745-55, and that this Groundwater Assessment Demonstration Report has been prepared in accordance with good engineering practices.

Robert Haag, Geologist
Printed name of qualified geologist or geotechnical engineer

Robert D. Haag
Signature of qualified geologist or geotechnical engineer

Date November 2, 1981

Designated person accountable for RCRA activities at this facility:

Name and Title Jeff Gremelspacher

Designated Company Contact:

Name and Title R. H. Walton

Address P. O. Box B, Brilliant, Ohio 43913

Phone 614-598-4164

Groundwater Assessment Demonstration Report

for

Facility: Cardinal Plant

Table of Contents

Review and Demonstration of How the Federal and State Rules on Required Contents of a Groundwater Assessment Demonstration Report Have Been Satisfied

Sections of this report will address the potential for migration of hazardous waste or hazardous waste constituents from the facility to water supply wells or to surface water in an order deemed most logical to an understanding of the system. Realizing that Federal or State inspectors may wish to evaluate this report in light of Federal and State guidelines on report preparation, the following discussion is provided. Each section required by the Federal and State rules is listed. A reference is provided to show where in this report the required discussion can be found. In special cases where a discussion was not applicable for a facility, the abbreviation "NA" has been entered. Anytime "NA" is shown, a brief explanation follows.

Section Required by Federal and State Rules	Corresponding Reference in This Report
A. Evaluation of the Potential for Impounded Hazardous Wastes to Migrate to the Uppermost Aquifer	Page 21
1. Water Balance of Precipitation, Evaporation, Runoff, and Infiltration	Please refer to the Appendix, Pages 26,27

Review, cont'd.

Section Required by Federal and State Rules	Corresponding Reference in This Report
2. Characteristics of the Unsaturated Zone Underlying the Facility	Pages 11,14,19
a. Geologic Materials	
b. Physical Properties	
c. Depth to Groundwater	Pages 11,15,16,Fig. 2
B. Evaluation of the Potential for Impounded Hazardous Wastes Which Enter the Uppermost Aquifer to Migrate to a Water Supply Well or Surface Water	Pages 14,19,21,23
1. Characteristics of the Saturated Zone Underlying the Facility	Pages 10,11,14,16
a. Geologic Materials	
b. Physical Properties	
c. Rate of Groundwater Flow	Pages 11,14,15,16
C. Proximity of the Facility to Water Supply Wells or Surface Water	Page 12

Other comments or explanation of "NA" entries: _____

I. Statement of Facility Policy and Objectives

Through safe and conscientious handling of on-site hazardous wastes regulated under the Resource Conservation and Recovery Act (RCRA), this facility is committed to preventing contamination of groundwaters. Toward that end, this document has been prepared to: 1) examine hazardous waste(s) managed on-site and/or discharged to on-site impoundment(s), 2) examine potential(s) for those hazardous waste(s) to migrate via the uppermost aquifer to water supply wells or to surface waters, and 3) to determine if installation, operation and maintenance of an on-site groundwater monitoring system is necessary.

This Groundwater Assessment Demonstration Report satisfies the written requirements set forth in 40 CFR, Part 265.90, paragraph (c).and Ohio Rule 3745-55-90(c). At a minimum this report, which will be kept at the facility, addresses the following items:

1) The hazardous wastes handled at this facility
2) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:
   a) a water balance of precipitation, evapotranspiration, runoff, and infiltration, and
   b) unsaturated zone characteristics (i.e., geologic materials, physical properties, and depth to groundwater), and
   c) the potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:

i) saturated zone characteristics (i.e., geologic materials, physical properties, and rate of groundwater flow), and

ii) the proximity of the facility to water supply wells or surface water.

If this Demonstration Report, when completed, shows that groundwater monitoring is not necessary, then the report will be kept available during interim status and provided to the Regional Administrator upon his request. Should the completed Report show that groundwater monitoring is necessary, then the Report will serve as the rationale for monitoring well placements. If shown to be necessary, groundwater monitoring must begin by November 19, 1981; a groundwater sampling and analysis plan would have to be prepared by that same date, as would an outline of a groundwater quality assessment program. These additional requirements are mentioned here only for informational purposes. The primary objectives of this Groundwater Assessment Demonstration Report are as already given in the first paragraph of this section.

II. Operational Description of the Facility and the Hazardous Wastes Handled On-Site

A. Operational Facility Description and Layout

A brief description of this Plant's generating capability and general site layout is given below. An abbreviated plot plan is attached to assist the reader in visualizing the facility layout.

Throughout this Report additional pages will be added as necessary and will be designated by the original page number followed by A, B, C, etc.

Cardinal Plant is located in Jefferson County in eastern Ohio on the banks of the Ohio River, approximately three miles southwest of the town of Brilliant, Ohio near the foothills of the Allegheny Mountains.

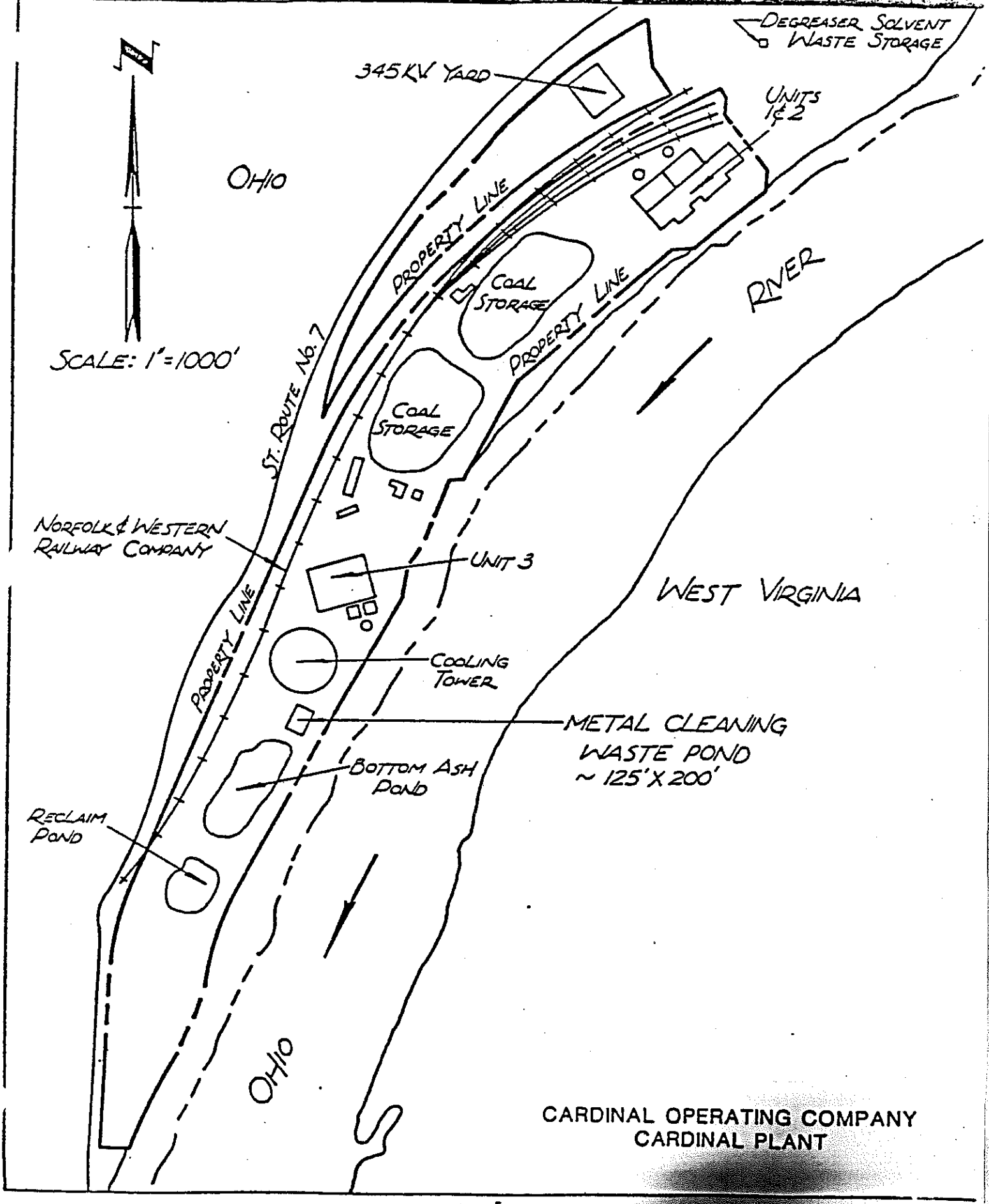
The Plant consists of three coal-fired supercritical steam electric generating units. Units 1 and 2 are rated at 590 MW, and Unit 3 is rated at 615 MW. Condenser cooling for the plant is in the form of once-through cooling for Units 1 and 2, while Unit 3 utilizes closed-cycle cooling. Bottom ash, fly ash, and pyrites are sluiced to on-site sedimentation ponds for treatment. All three units are equipped with electrostatic precipitators.

A RCRA permit application was filed for the Cardinal Plant by Ohio Power on November 17, 1980 (EPA I.D. No. OHD051139202). Hazardous wastes handled on site will be more fully described in Parts II.B. and II.C. of this report, but they consist of metal cleaning wastes and waste solvents. Metal cleaning wastes are discharged to a separate basin

II.A. Operational Facility Description and Layout, cont'd.

designed specifically for metal cleaning waste treatment. Waste solvent is stored in 55-gallon drums and later hauled off site to be reclaimed and reused.

FACILITY DRAWING



CARDINAL OPERATING COMPANY
CARDINAL PLANT

II.B. Listing of Hazardous Wastes Handled On-Site by Methods Other than Surface Impoundment

Listed below are the hazardous wastes managed on-site by methods other than surface impoundment. Measures taken to assure that this group of hazardous wastes do not impact groundwater are given. For example, periodic inspection of a barrel stored on curbed asphalt and containing a hazardous waste solvent provides assurance that groundwater is not being impacted.

Hazardous Wastes	Measures Taken
Listed Waste Solvents (F001)	These hazardous wastes are spent degreasing solvents. The spent solvents are kept in 55-gallon metal drums inside a building. The area measures approximately 30 ft. x 15 ft. and has a concrete floor. There are no drains in the floor, and any spills would be contained inside the building. These drums are inspected at least weekly for any signs of deterioration. Such measures insure that these wastes do not impact groundwater. The location of the storage area is shown on the plot plan. These solvents are periodically hauled off site to be reclaimed and reused.

II.C. Listing of Hazardous Wastes Managed On-Site By Surface Impoundment

Listed below are the hazardous wastes managed on-site by surface impoundment. Also provided is a column which explains how the waste was produced, what form of treatment (if any) is provided, and what chemical reactions are anticipated. Estimates of the detention times are provided as well as a description of the ultimate disposition.

Hazardous Wastes	Discussion
Metal Cleaning Wastes (D007)	During periodic chemical cleanings of the water side surface of steam generator tubes, a spent acid solution results. Usually a 2 percent hydroxyacetic, 1 percent formic acid solution with 0.25 percent ammonium bifluoride is used to clean all three units. The spent solution for Units 1-3 is discharged to the metal cleaning waste treatment basin. Hydrated lime is placed in the basin near the point where the spent acid enters the basin sometime prior to the cleaning operation. Caustic solution is added in liquid form either at the same time the metal cleaning wastes enter the basin or sometime thereafter. Lime and caustic are then mixed by the combined action of the air diffusion system and a recirculating pump. The addition of the lime and caustic serve the purpose of raising

II.C. Listing of Hazardous Wastes Managed On-Site By Surface Impoundment, cont'd.

Hazardous Wastes	Discussion
	the pH. By raising the pH the solubility of iron and copper is greatly reduced enabling these metals and others to precipitate out to the bottom of the basin. Neutralization occurs quickly, and the waste is rendered non-hazardous in a brief period of time.
	Prior to the addition of lime and caustic to elevate pH and precipitate metals, the metal cleaning waste is a hazardous waste solely due to a total chromium concentration exceeding 5.0 mg/l. More specifically, we know that the Cardinal Plant metal cleaning waste cannot be classified as a waste which is:
	a) reactive,
	b) ignitable,
	c) corrosive-by low or high pH or by corrosion rate,
	d) toxic, except when the total chromium concentration exceeds 5.0 mg/l,
	e) a listed hazardous waste.

II.C. Listing of Hazardous Wastes Managed On-Site By Surface Impoundment, cont'd.

Hazardous Wastes	Discussion
	If the rule proposed in the October 30, 1980 Federal Register becomes final (the rule to change the chromium toxicity criterion from total chromium to hexavalent chromium), the Company would not be handling a hazardous metal cleaning waste at all. Company-wide tests of metal cleaning wastes for hexavalent chromium have all been <0.10 mg/l. The basin is lined with a 36 mil reinforced Hypalon liner to prevent seepage from the basin. A closure plan, as dictated by RCRA, has been prepared outlining procedures to be followed to ensure an environmentally safe close out of the basin. The plan includes the removal of any hazardous sludge, backfilling, the addition of top soil, and reseeding. It should be pointed out that sludge samples grabbed from similar MCW basins showed those sludges to be non-hazardous. EP toxicity data were at least one order of magnitude below the U.S. EPA toxicity criteria. It is believed that tests of the Cardinal MCW basin sludge, when performed, will also show similar non-hazardous results.

III. Geological and Hydrological Description of the Facility

This section presents data gathered from various sources regarding the geologic and hydrologic makeup of the site and surrounding area.

III.A. Identification of Regional Flow Systems and Water Supply Sources in the Area

There are three principal potential sources of potable groundwater in the Cardinal Plant vicinity, near Brilliant, Ohio:

1) the Pleistocene-aged valley-fill of the Ohio River,
2) the bedrock of Pennsylvanian age, primarily the beds of the Conemaugh group and
3) localized deposits of recent alluvium in some of the larger creek valleys.

Of these, only the Ohio river valley-fill aquifer is capable of large-scale water production, but water sufficient for individual needs may be obtained from the other two sources.

Ohio River Valley-Fill Aquifer. During the Pleistocene, or "Ice Age" epoch of geologic time, during a period when the glaciers were in retreat, rivers such as the Ohio cut their beds deeply into the underlying bedrock. The glaciers again advanced, and in their final oscillations filled these valleys with a thick section of sand and gravel carried by the large volumes of glacial meltwater. In the final stages of deglaciation, the rising sea level backed up the

waters of the Mississippi River, which created a slackwater condition on its tributaries. This condition resulted in the deposition of a blanket of silt and clay, which is widely observed to top the sand and gravel valley fill of the Ohio River (Walker, 1957).

The result of this geologic sequence is a river-valley aquifer of sand and gravel which is generally unconfined if the water table falls below the upper silts and clays, but may be confined or semi-confined if the water table rises to the level of these "capping" deposits. Along the Ohio River, this piezometric surface generally lies very near the mean river pool elevation, thus conditions would appear to be confined in the Cardinal Plant area (See Fig. 2).

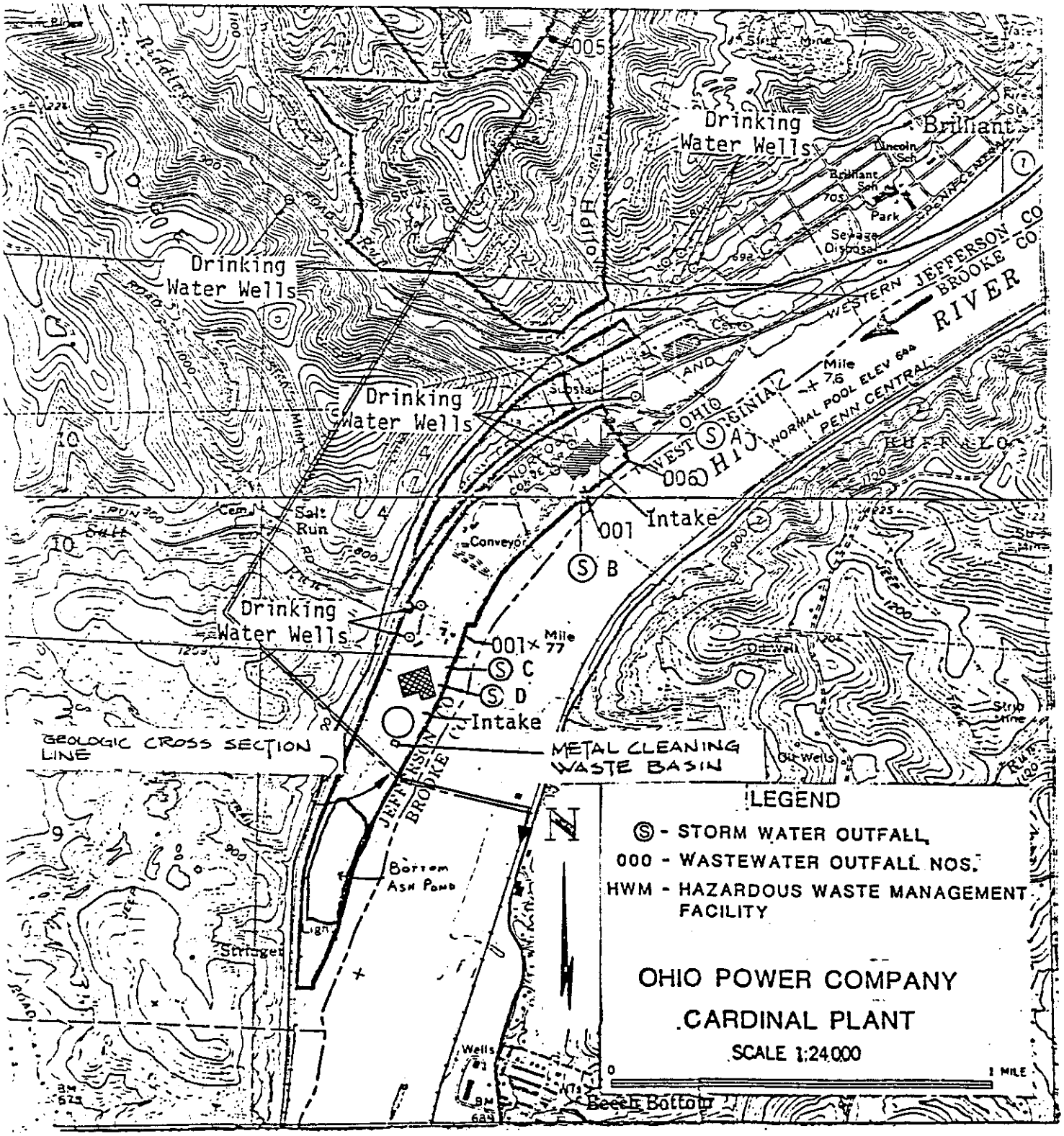
In the vicinity of the Cardinal Plant, the alluvial sand and gravel deposits are as much as 50 feet thick, beneath about 40 feet of what has been loosely described as "sandy, gravelly clay" (Schmidt, 1959). However, beneath the Cardinal Plant MCW pond, the clayey blanket has been removed (See Section III.C.).

The configuration of the valley-fill aquifer is readily defined by the visible valley walls, by borings taken for construction of the Cardinal Plant, and by cross-sections presented by Robison (1964) and Schmidt (1959). These sources have been combined in the cross-section of Figure 2, which is located in map view on Figure 1.

Two wells reaching the alluvial sand and gravel aquifer at Wellsburg, approximately one mile upstream of Brilliant, were reportedly capable of yielding 350,000 gpd (Carlston and Graeff, 1956), and the yields of several wells located just downstream of the plant site are given in the following table (Robison, 1964):

Figure 1

Plan View of Cardinal Vicinity



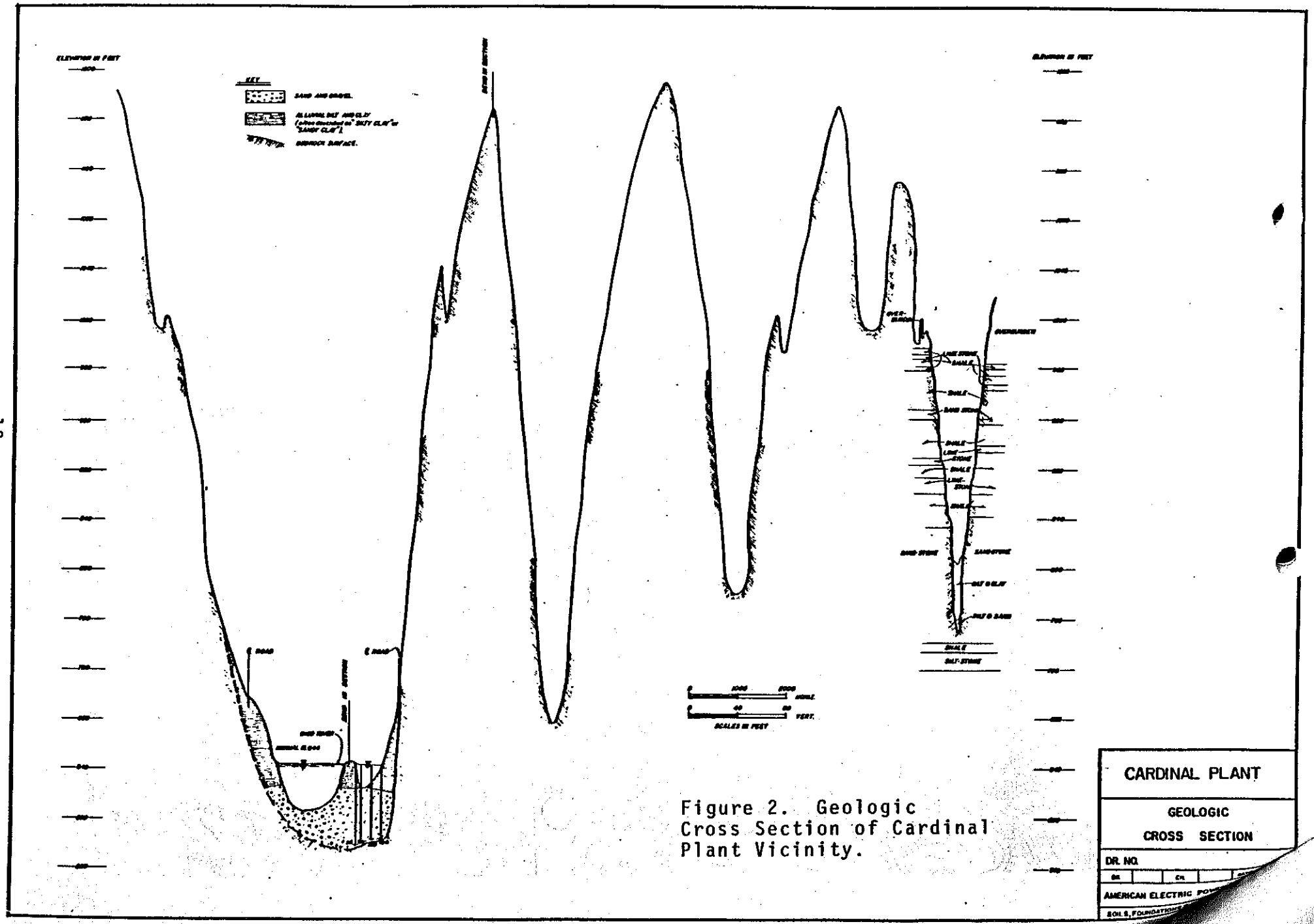


Figure 2. Geologic Cross Section of Cardinal Plant Vicinity.

III.A. Identification of Regional Flow Systems and Water Supply Sources in the Area (cont'd.)

Well No.	Use	Depth (feet)	Yield (gpm)
3-1-2	Dairy	86	125
3-1-3	Public supply (unused)	90	400
3-1-7	Municipal test well	56	350
3-1-161	Machinery manufacture	88	300
3-10-2	Ice manufacture	90±	300
3-10-5	Packing plant	68	800
3-10-6	Packing plant	68	425
3-10-8	Packing plant	84	450

Specific capacity for well number 3-1-7 was determined to be 117 gpm/ft. of drawdown by a 24-hour test, and was found to be 113 gpm/ft. of drawdown for well number 3-10-8 in a 1-hour test. Computations based upon the latter test place the aquifer permeability at about 2000 gpd/ft^2.

It is an axiom of groundwater hydrology in humid regions that groundwater flow sustains river flow, therefore the non-flood direction of groundwater movement in the alluvial aquifer is toward the river, with a slight downstream component. The natural gradient in the valley-fill aquifer in most places along the Ohio River is very flat, and has been elsewhere shown to be in the neighborhood of 0.001 ft/ft (Woodward-Clyde Consultants, 1978). The rate of flow under these conditions would be less than one ft/day. Because groundwater flow is toward the river from either side, the centerline of the river becomes something of a "groundwater boundary", where subsurface flow must either recharge the river, or turn downstream.

III.A. Identification of Regional Flow Systems and Water Supply Sources in the Area (cont'd.)

Bedrock Aquifers. The hills in the vicinity of the Cardinal Plant are capped by Pennsylvanian-aged bedrock of the Monongahela Group, while rocks of the Conemaugh Group of the same age form the lower portions of these hills, and extend downward to roughly 115 feet below the bottom of the rock-cut channel of the Ohio River.

The Monongahela is a relatively poor source of water, and is located too high in the section to be of concern in this study. The Conemaugh, however, is an adequate groundwater producer in many regions, primarily due to fracture porosity in its several thick sandstones, and an occasional limestone unit (Robison, 1964). The thickest, most persistent sandstones in the area are termed the Morgantown and the Grafton, while the most reliably locatable limestone is named the Ames. The Morgantown and Gafton sandstones appear to be coalesced into a single unit near the plant site.

The average yield to wells in the Conemaugh group is 7 gpm. The highest yields, in the neighborhood of 14 gpm, are obtained in valleys where small streams can recharge the aquifers.

The location of productive sandstone units in the Conemaugh is variable, as these are often channel sandstones cut through repetetive sequences of siltstone, shale, limestone and coal, in deposits termed cyclothems. The location of productive zones in the limestones is also extremely variable, depending upon localized fracturing and solution cavities.

Saline groundwater is encountered in the bedrock at quite shallow depths in the area. Approximately 7 miles downstream of Brilliant, saline water was encountered in a well only 150 feet deep,

while a nearby, 100 foot-deep well yields salty water when over-pumped and during dry spells. In general, wells drilled to more than 200 feet below drainage in this area can be expected to produce salty water (Schmidt, 1959).

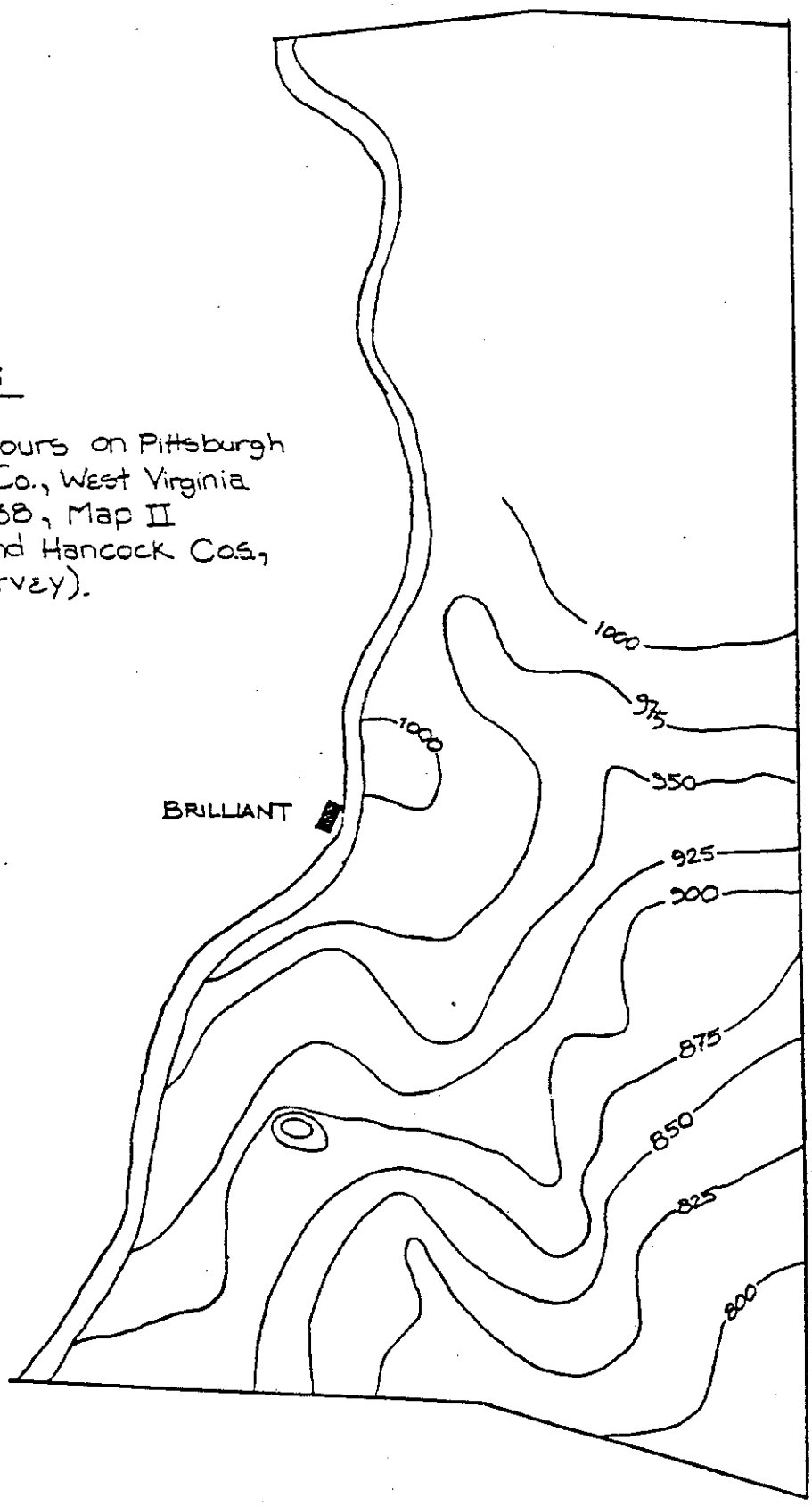
As shown by Figure 3, the geologic structure of the area dips gently to the SE, causing the strata to drop at a rate of about 17 feet/mile. Although some subsurface flow in this direction may take place in the more continuous permeable beds, it is likely that river-paralleling fractures would exert a more significant control upon flow in the fresh-water aquifers of concern to this study.

Recent Alluvium Aquifers. The larger creeks of the Brilliant area have been found to contain some very localized zones which are capable of producing as much as 25 gpm to properly constructed, large-diameter wells. The location of these zones is not easily predictable, and considerable test drilling is required to develop such areas.

Interconnections. It is not likely that a direct hydraulic connection exists between the Ohio River valley-fill aquifer and the localized permeable zones in the recent alluvium of creekbeds, except near the mouths of such creeks, where they debouche directly to the Ohio. In such settings, the outwash sands and gravels of the Ohio River have generally flooded into the mouths of its smaller tributaries. These tributary-mouth deposits would be generally up-gradient of the plant site, however.

FIGURE 3

Structure Contours on Pittsburgh Coal in Brooke Co., West Virginia (after Tucker, 1938, Map II Ohio, Brook and Hancock Cos., W. Va. Geol. Survey).



III.A. Identification of Regional Flow Systems and Water Supply Sources in the Area (cont'd.)

It is likely that there is some degree of interconnection between the Ohio River valley-fill aquifer and some of the sandstone aquifers of the Conemaugh group below the Ames limestone, as the alluvial sand and gravel has been laid down in a channel cut through this bedrock suite. River-paralleling fractures might also conceivably provide some interconnection between the more discontinuous sandstone aquifers.

III.B. Identification of Facility Position Within the Regional Flow System

As shown by the facility layout drawing of Part II.A. and by Figure 2 of Part III.A., the Cardinal Plant MCW disposal pond is located above the Ohio River valley-fill aquifer. The silty clay blanket which originally separated the MCW pond site from the underlying aquifer has been removed by excavation; however, a 36 mil Hypalon liner installed in the MCW pond hydraulically isolates this pond from the groundwater system.

Wheb?

III.C. Metal Cleaning Waste Pond Construction History

Prior to the construction of Cardinal Plant Unit 3, the area presently occupied by Unit 3 and the current MCW pond was part of the ash pond complex for Units 1 and 2 (please refer to page 5). Also before Unit 3 was built, a contractor was permitted to breach one of the river-side dikes of this ash pond complex in order to float in dredging equipment. Borings for the construction of Unit 3 demonstrate that the dredging operation led to the complete removal of the "silty clay" layer from above the sand and gravel aquifer, at least within the northernmost pond area. After backfilling, Unit 3 was constructed on piling over what had once been the northern part of the ash pond complex for Units 1 and 2. The remainder of the original ash pond complex, now commencing just to the South of the Unit 3 cooling tower, is presently referred to as a bottom ash pond.

Within this bottom ash pond, along the dike farthest from the river, the plant staff constructed an early MCW pond, which proved unsuitable. The present MCW pond was then designed for construction in the northeast corner of the bottom ash pond, close to the Unit 3 cooling tower. The pond engineering was handled jointly by American Electric Power's Civil Engineering and Materials Handling Divisions. American Electric Power is the parent company of the Ohio Power Company. The Civil Engineering Division ordered a 36 mil, reinforced Hypalon liner in three 52 ft. by 225 ft. panels from Watersaver Company, and the liner was installed by the plant's Service Contractor, under the supervision of the plant's Civil Engineering construction office.

III.C. Metal Cleaning Waste Pond Construction History, cont'd.

The liner was installed on a pond-bottom base of bottom ash, placed to an elevation sufficient to prevent inseepage of water from the adjacent bottom ash pond during seaming. Liner anchorage was provided by a long horizontal overlap on the dike tops on all sides, covered by a bottom ash fill which extends over the entire liner. Performance of the liner since its 1972 installation indicates that this anchorage technique was appropriate.

Thus, the present MCW pond is a Hypalon-lined basin located adjacent to a larger bottom ash pond. Below the Hypalon liner lies a bottom ash fill to an uncertain depth. Below this bottom ash fill may lie an unclassified (probably pervious) fill related to the construction of Unit 3, which is in turn directly underlain by the Ohio River sand and gravel aquifer.

III.D. Inspection of Water Losses from the Facility to the Regional Flow System and Conclusion on the Impact of Leakage to Water Supply Sources

The presence of a 36 mil, reinforced Hypalon liner in the MCW pond hydraulically isolates this facility from the groundwater system. Were the liner not in place, water would seep directly from the MCW pond to the sand and gravel aquifer below. However, the liner should prove adequate protection against leakage from the MCW pond to water-supply sources. questionable

IV. Concluding Statement Regarding the Necessity of Groundwater Monitoring Wells at This Facility

Before offering geotechnical conclusions on the need or lack of need for groundwater monitoring at this facility, characteristics of the metal cleaning wastes periodically impounded must be emphasized. Characteristics of these wastes are such that they soon may be exempt from the hazardous waste regulations. A U.S. EPA regulation proposed on October 30, 1980, if adopted, would provide a basis for delisting the waste.

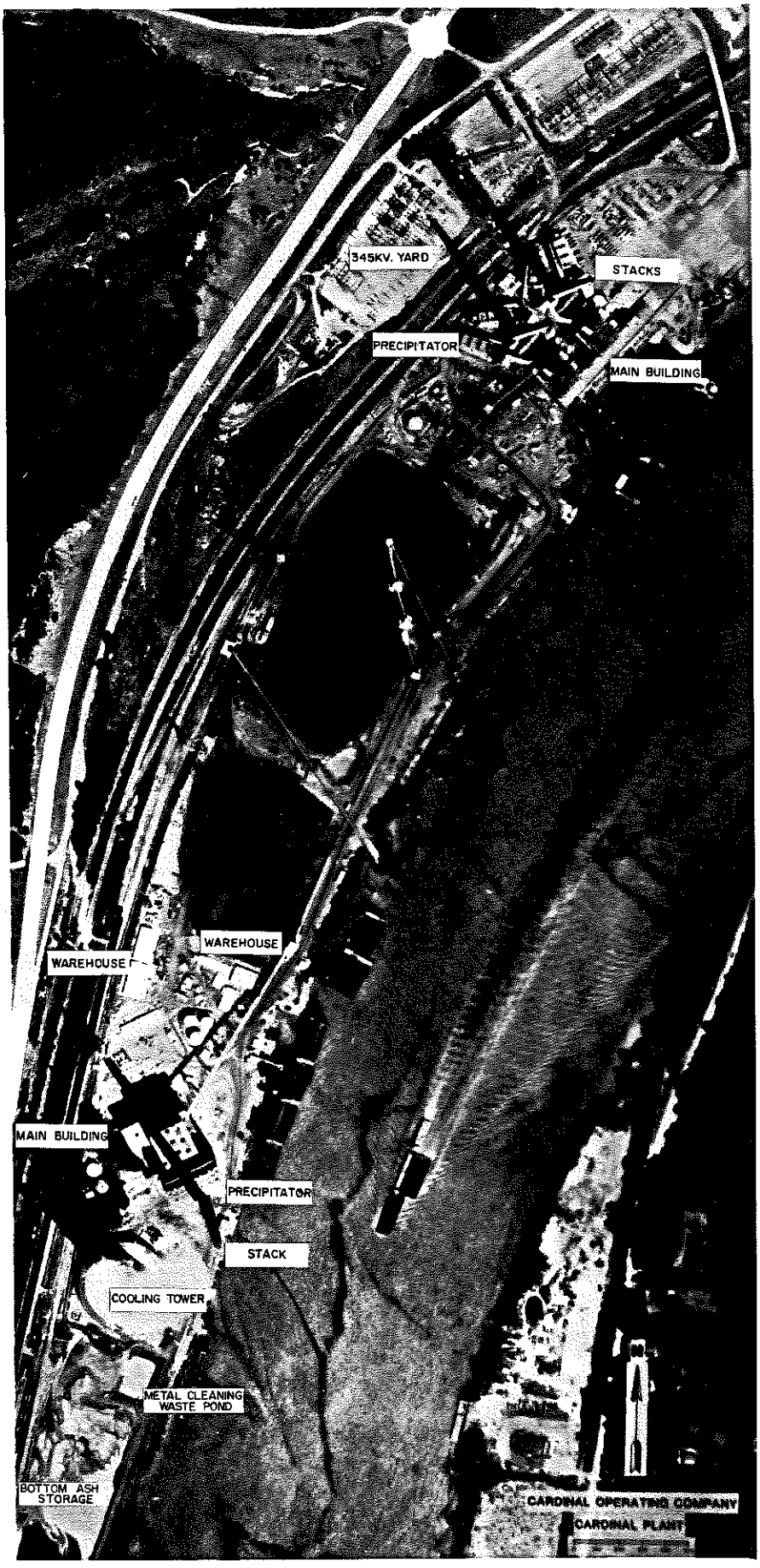
The metal cleaning wastes periodically handled at this facility are currently classified as hazardous wastes solely due to their total chromium concentrations. Sometimes analyses of these wastes show total chromium concentrations greater than the U.S. EPA criterion of 5.0 mg/l. Depending on the condition of the tube metal being cleaned, the total chromium concentration may be above or below the U.S. EPA limit.

Additional analyses of the metal cleaning wastes by the Company have shown that although the total chromium concentrations may be high (up to 15 mg/l), the hexavalent chromium concentrations are low. From four samples of hydroxyacetic formic acid metal cleaning waste sludges or supernatants analyzed for hexavalent chromium, none has been higher than <0.100 mg/l. As stated by U.S. EPA in their proposed rule of October 30, 1980, hexavalent chromium is the valence state of concern because of its carcinogenic toxicity. Recognizing this fact, U.S. EPA proposed to change the EP toxicity limit from total chromium (5.0 mg/l) to hexavalent chromium (5.0 mg/l). Should this rule become final, as we expect, the Company would no longer be handling a RCRA hazardous waste in a surface impoundment and would, therefore, be

IV. Concluding Statement Regarding the Necessity of Groundwater Monitoring Wells at This Facility, cont'd.

exempt from RCRA groundwater requirements. It is asked that the following geotechnical conclusion be considered in light of the potential change in regulations.

The 36 mil Hypalon liner which underlies the Cardinal Plant MCW basin isolates the temporarily impounded wastes from the aquifer below, rendering monitoring wells unnecessary.


345KV. YARD
STACKS
PRECIPITATOR
MAIN BUILDING
WAREHOUSE
WAREHOUSE
MAIN BUILDING
PRECIPITATOR
STACK
COOLING TOWER
METAL CLEANING WASTE POND
BOTTOM ASH STORAGE
CARDINAL OPERATING COMPANY
CARDINAL PLANT

OHD 051 139 202

AMERICAN ELECTRIC POWER *Service Corporation*

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VICE PRESIDENT, SECRETARY AND DEPUTY GENERAL COUNSEL
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ANTHONY E. MILLER
ATTORNEYS

ADDITIONAL INFORMATION IS FILED WITH OHD 000 676 817

April 18, 1983

Regional Administrator
U. S. Environmental
Protection Agency
Region III, Curtis Building
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106

Attention: Ms. Shirley Bulkin
(3AW32)

Regional Administrator
U. S. Environmental
Protection Agency
P. O. Box A3587
Chicago, IL 60690-3587

Attention: RCRA Financial
Requirements

Gentlemen:

The enclosed letter is being filed on behalf of Ohio Power Company to comply with the requirements of 40 C.F.R. Parts 264 and 265, which require an annual update of previously-filed information.

Sincerely,

John B. Shinnock

bh
Enclosure
cc: C. A. Heller, Jr./R. E. Wright

RECEIVED
APR 22 1983
WASTE MANAGEMENT BRANCH
EPA, REGION V

AMERICAN ELECTRIC POWER *Service Corporation*

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THOMAS S. ASHFORD
RACHEL B. KEARNEY
ANTHONY E. MILLER
ATTORNEYS

January 28, 1983

Regional Administrator
U. S. Environmental
Protection Agency
Region III, Curtis Building
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106

Attention: Ms. Shirley Bulkin
(3AW32)

Regional Administrator
U. S. Environmental
Protection Agency
P. O. Box A3587
Chicago, IL 60690-3587

Attention: RCRA
Financial Requirements

Gentlemen:

The enclosed letter is being filed to comply with the requirements of 40 C.F.R. Parts 264 and 265 pertaining to liability coverage for nonsudden accidental occurrences involving surface impoundments. This letter merely updates one filed last June by adding $6 million to lines 2 and 3 under the heading "Alternative II".

Sincerely yours,

John B. Shinnock

bh
Enclosure
cc: C. A. Heller, Jr./R. E. Wright

OHIO POWER COMPANY

P.O. BOX 16631
COLUMBUS, OHIO 43216

Regional Administrator
U. S. Environmental Protection Agency
Region III, Curtis Building
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106

Attention: Ms. Shirley Bulkin
(3AW32)

Regional Administrator
U. S. Environmental Protection Agency
P. O. Box A3587
Chicago, Illinois 60690-3587

Attention: RCRA Financial Requirements

Gentlemen:

I am the chief financial officer of Ohio Power Company, 301 Cleveland Avenue, S.W., Canton, Ohio 44701. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage and closure and/or post-closure care, as specified in Subpart H of 40 CFR Parts 264 and 265.

The owner or operator identified above is the owner or operator of the following facilities for which liability coverage is being demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265:

(a) EPA IDENTIFICATION NUMBER: OHD051139202

NAME: Cardinal Plant

ADDRESS: Mailing: P. O. Box B
Brilliant, OH 43913

Location: Route 7 South
Brilliant, OH 43913

(b) EPA IDENTIFICATION NUMBER: OHD000676775

NAME: Gavin Plant

ADDRESS: Mailing: P. O. Box 271
Cheshire, OH 45620

Location: Route 7 South
Cheshire, OH 45620

(c) EPA IDENTIFICATION NUMBER: WVD082244302

NAME: Kammer Plant

ADDRESS: Mailing: P. O. Box K
Moundsville, WV 26041

Location: WV Route 2 (9 miles s. of Moundsville)

(d) EPA IDENTIFICATION NUMBER: WVD980554943

NAME: Mitchell Plant

ADDRESS: Mailing: P. O. Box K
Moundsville, OH 26041

Location: WV Route 2 (10 miles s. of Moundsville)
Moundsville, OH 26041

(e) EPA IDENTIFICATION NUMBER: OHD000822510

NAME: Muskingum River Plant

ADDRESS: Mailing: P. O. Box 158
Beverly, OH 45715

Location: 3.5 miles nw of Beverly, OH
Beverly, OH 45715

1. The owner or operator identified above owns or operates the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility:

(a) EPA IDENTIFICATION NUMBER: OHD051139202

NAME: Cardinal Plant

ADDRESS: Mailing: P. O. Box B
Brilliant, OH 43913

Location: Route 7 South
Brilliant, OH 43913

CURRENT CLOSURE COST ESTIMATE: $220,000

(b) EPA IDENTIFICATION NUMBER: OHD000676775

NAME: Gavin Plant

ADDRESS: Mailing: P. O. Box 271
Cheshire, OH 45620

Location: Route 7 South
Cheshire, OH 45620

CURRENT CLOSURE COST ESTIMATE: $129,382

(c) EPA IDENTIFICATION NUMBER: WVD082244302

NAME: Kammer Plant

ADDRESS: Mailing: P. O. Box K
Moundsville, WV 26041

Location: WV Route 2 (9 miles s. of Moundsville)

CURRENT CLOSURE COST ESTIMATE: $6,985

(d) EPA IDENTIFICATION NUMBER: WVD980554943

NAME: Mitchell Plant

ADDRESS: Mailing: P. O. Box K
Moundsville, OH 26041

Location: WV Route 2 (10 miles s. of Moundsville)
Moundsville, OH 26041

CURRENT CLOSURE COST ESTIMATE: $51,194

(e) EPA IDENTIFICATION NUMBER: OHD000822510

NAME: Muskingum River Plant

ADDRESS: Mailing: P. O. Box 158
Beverly, OH 45715

Location: 3.5 miles nw of Beverly, OH
Beverly, OH 45715

CURRENT CLOSURE COST ESTIMATE: $71,500

2. The owner or operator identified above guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure and post-closure care of the following facilities owned or operated by its subsidiaries. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: NONE

3. In States where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 and 265, this owner or operator is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure

and/or post-closure cost estimates covered by such a test are shown for each facility: NONE

4. The owner or operator identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: NONE

This owner or operator is required to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this owner or operator ends on December 31. The figures for the following items marked with an asterisk are derived from this owner's or operator's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 1981.

Alternative II

1.	Sum of current closure and post-closure cost estimates (total of all cost estimates listed above)	$ 479,061
2.	Amount of annual aggregate liability coverage to be demonstrated	$2,000,000
3.	Sum of lines 1 and 2	$2,479,061
4.	Current bond rating of most recent issuance and name of rating service	BBB+ Standard and Poor's
5.	Date of issuance of bond	March 18, 1982
6.	Date of maturity of bond	March 1, 1992
*7.	Tangible net worth (if any portion of the closure or post-closure cost estimates is included in "total liabilities" on your financial statements, you may add that portion to this line)	$1,182,000,000

*8.	Total assets in the U. S. (required only if less than 90% of assets are located in the U. S.).		More than 90% of assets are in U.S.
		Yes	No
9.	Is line 7 at least $10 million?.	X	
10.	Is line 7 at least 6 times line 3? . . .	X	
*11.	Are at least 90% of assets located in the U. S.? If not, complete line 12 . .	X	
12.	Is line 8 at least 6 times line 3? . . .		

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(g) as such regulations were constituted on the date shown immediately below.

G. P. Maloney
Vice President
Date June 25, 1982

Enclosures: 1981 Annual Report
Special Report From Independent
Certified Public Accountant

Deloitte
Haskins + Sells

155 East Broad Street
Columbus, Ohio 43215
(614) 221-1000
Cable DEHANDS

Mr. G.P. Maloney, Vice President
and Chief Financial Officer
Ohio Power Company
301 Cleveland Avenue, S.W.
Canton, Ohio 44701

June 25, 1982

Dear Mr. Maloney:

We have examined the consolidated financial statements of Ohio Power Company for the year ended December 31, 1981 and have issued our report thereon dated February 23, 1982. Our examination was made in accordance with generally accepted auditing standards and, accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

(A) We have compared the data which the letter from you as chief financial officer specifies as having been derived from the independently-audited, year-end financial statements for the latest completed fiscal year ended December 31, 1981 with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to our attention which caused us to believe that the specified data should be adjusted.

Sincerely yours,

DELOITTE HASKINS & SELLS

Deloitte Haskins + Sells

By John A. Pyke, Partner

Deloitte Haskins + Sells

C 'D 05/139202

155 East Broad Street
Columbus, Ohio 43215
(614) 221-1000
Cable DEHANDS

Mr. G. P. Maloney, Vice President
and Chief Financial Officer
Ohio Power Company
301 Cleveland Avenue, S.W.
Canton, Ohio 44702

January 27, 1983

Dear Mr. Maloney:

We have examined the consolidated financial statements of Ohio Power Company for the year ended December 31, 1981 and have issued our report thereon dated February 23, 1982. Our examination was made in accordance with generally accepted auditing standards and, accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

(A) We have compared the data which the letter from you as chief financial officer specifies as having been derived from the independently-audited, year-end financial statements for the latest completed fiscal year ended December 31, 1981 with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to our attention which caused us to believe that the specified data should be adjusted.

Sincerely yours,

DELOITTE HASKINS & SELLS

Deloitte Haskins + Sells

By John P. Tyler, Partner

OHD 051 139 202

OHIO POWER COMPANY

P.O. BOX 16631
COLUMBUS, OHIO 43216

Regional Administrator
U. S. Environmental Protection Agency
Region III, Curtis Building
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106

Attention: Ms. Shirley Bulkin
(3AW32)

Regional Administrator
U. S. Environmental Protection Agency
P. O. Box A3587
Chicago, Illinois 60690-3587

Attention: RCRA Financial Requirements

Gentlemen:

I am the chief financial officer of Ohio Power Company, 301 Cleveland Avenue, S.W., Canton, Ohio 44701. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage and closure and/or post-closure care, as specified in Subpart H of 40 CFR Parts 264 and 265.

The owner or operator identified above is the owner or operator of the following facilities for which liability coverage is being demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265:

(a) EPA IDENTIFICATION NUMBER: OHD051139202

NAME: Cardinal Plant

ADDRESS: Mailing: P. O. Box B
Brilliant, OH 43913

Location: Route 7 South
Brilliant, OH 43913

(b) EPA IDENTIFICATION NUMBER: OHD000676775

NAME: Gavin Plant

ADDRESS: Mailing: P. O. Box 271
Cheshire, OH 45620

Location: Route 7 South
Cheshire, OH 45620

(c) EPA IDENTIFICATION NUMBER: WVD082244302

NAME: Kammer Plant

ADDRESS: Mailing: P. O. Box K
Moundsville, WV 26041

Location: WV Route 2 (9 miles s. of Moundsville)

(d) EPA IDENTIFICATION NUMBER: WVD980554943

NAME: Mitchell Plant

ADDRESS: Mailing: P. O. Box K
Moundsville, WV 26041

Location: WV Route 2 (10 miles s. of Moundsville)
Moundsville, OH 26041

(e) EPA IDENTIFICATION NUMBER: OHD000822510

NAME: Muskingum River Plant

ADDRESS: Mailing: P. O. Box 158
Beverly, OH 45715

Location: 3.5 miles nw of Beverly, OH
Beverly, OH 45715

1. The owner or operator identified above owns or operates the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility:

(a) EPA IDENTIFICATION NUMBER: OHD051139202

NAME: Cardinal Plant

ADDRESS: Mailing: P. O. Box B
Brilliant, OH 43913

Location: Route 7 South
Brilliant, OH 43913

CURRENT CLOSURE COST ESTIMATE: $220,000

(b) EPA IDENTIFICATION NUMBER: OHD000676775

NAME: Gavin Plant

ADDRESS: Mailing: P. O. Box 271
Cheshire, OH 45620

Location: Route 7 South
Cheshire, OH 45620

CURRENT CLOSURE COST ESTIMATE: $129,382

(c) EPA IDENTIFICATION NUMBER: WVD082244302

NAME: Kammer Plant

ADDRESS: Mailing: P. O. Box K
Moundsville, WV 26041

Location: WV Route 2 (9 miles s. of Moundsville)

CURRENT CLOSURE COST ESTIMATE: $6,985

(d) EPA IDENTIFICATION NUMBER: WVD980554943

NAME: Mitchell Plant

ADDRESS: Mailing: P. O. Box K
Moundsville, WV 26041

Location: WV Route 2 (10 miles s. of Moundsville)
Moundsville, OH 26041

CURRENT CLOSURE COST ESTIMATE: $51,194

(e) EPA IDENTIFICATION NUMBER: OHD000822510

NAME: Muskingum River Plant

ADDRESS: Mailing: P. O. Box 158
Beverly, OH 45715

Location: 3.5 miles nw of Beverly, OH
Beverly, OH 45715

CURRENT CLOSURE COST ESTIMATE: $71,500

2. The owner or operator identified above guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure or post-closure care of the following facilities owned or operated by its subsidiaries. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: NONE

3. In States where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 and 265, this owner or operator is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure

and/or post-closure cost estimates covered by such a test are shown for each facility: NONE

4. The owner or operator identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: NONE

This owner or operator is required to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this owner or operator ends on December 31. The figures for the following items marked with an asterisk are derived from this owner's or operator's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 1981.

Alternative II

1.	Sum of current closure and post-closure cost estimates (total of all cost estimates listed above)	$ 479,061
2.	Amount of annual aggregate liability coverage to be demonstrated	$8,000,000
3.	Sum of lines 1 and 2	$8,479,061
4.	Current bond rating of most recent issuance and name of rating service	BBB+ Standard and Poor's
5.	Date of issuance of bond	March 18, 1982
6.	Date of maturity of bond	March 1, 1992
*7.	Tangible net worth (if any portion of the closure and post-closure cost estimates is included in "total liabilities" on your financial statements, you may add that portion to this line)	$1,182,000,000

		Yes	No
*8.	Total assets in the U. S. (required only if less than 90% of assets are located in the U. S.).	More than 90% of assets are in U.S.	
9.	Is line 7 at least $10 million?.	X	___
10.	Is line 7 at least 6 times line 3? . . .	X	___
*11.	Are at least 90% of assets located in the U. S.? If not, complete line 12 . .	X	___
12.	Is line 8 at least 6 times line 3? . . .	___	___

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(g) as such regulations were constituted on the date shown immediately below.

G. P. Maloney
Vice President
Date January 27, 1983

Enclosures: 1981 Annual Report
Special Report From Independent
Certified Public Accountant

BEFORE THE
ENVIRONMENTAL PROTECTION AGENCY
STATE OF OHIO

In the Matter of:	:	CASE NO. 83-HW-011
OHIO POWER COMPANY CARDINAL PLANT BRILLANT, OHIO	:	AGREED FINAL FINDINGS AND ORDERS

Pursuant to Sections 3734.13 and 3734.12(H) of the Ohio Revised Code and with the consent of the Parties hereto, the Director of Environmental Protection makes the following Findings and issues the following Final Orders:

FINDINGS

1. On November 3, 1981, the Ohio Power Company ("OPCo") applied to the Ohio Environmental Protection Agency for a variance for the Cardinal Plant ("Cardinal") from the groundwater monitoring standards, pursuant to OAC §3745-65-90;

2. OPCo was issued a Hazardous Waste Facility Approval Board ("HWFAB") permit for the treatment and storage of hazardous wastes in a surface impoundment on January 7, 1982 (Permit No. 04-41-0226);

3. On October 23, 1982, the Director of Environmental Protection issued "Proposed Findings and Orders" which would deny OPCo's application for a variance, and would require the applicant to implement a groundwater monitoring program, pursuant to OAC §§3745-65-90 through 3745-65-94;

4. On November 19, 1982, OPCo requested an adjudication hearing with respect to the Director's "Proposed Findings and Orders";

5. At prehearing conferences at which the parties met to discuss the applicability of OAC §3745-65-90 to the Cardinal Plant, OPCo presented evidence which tends to establish that no "hazardous wastes" (as defined by OAC §§3745-51-01 through 3745-51-33) have been, are being, or will be "stored" or "treated" in the surface impoundment at Cardinal;

6. Because of the infrequency of boiler cleaning operations and the high exit velocity of boiler cleaning wastes at the point of discharge to the surface impoundment, OPCo has not obtained samples at the point of discharge into the surface impoundment;

7. The Parties hereto are in agreement that, under the facts as represented by the Applicant and as presently understood by the Director, the hazardous waste regulations, and in particular the groundwater monitoring requirements, do not presently appear to be applicable to the surface impoundment at Cardinal;

8. By letters from the Applicant dated June 22, 1983, OPCo withdrew its USEPA Part A application for a hazardous waste permit and simultaneously applied to HWFAB for withdrawal of its Ohio Hazardous Waste Facility Permit for Cardinal;

9. In consideration for the Orders hereinafter entered and by their signatures below, OPCo has agreed to, and hereby does, withdraw its application for a variance for Cardinal and its instant request for an adjudication hearing.

ORDERS

1. OPCo shall promptly install at Cardinal a device or devices which will permit safe and representative sampling of the effluent directly from the discharge pipe prior to the point the effluent reaches the impoundment.

2. OPCo shall notify the Southeast District Office of Ohio EPA at least fifteen (15) days prior to its intent to discharge boiler cleaning wastes into the surface impoundment at Cardinal and shall permit, without need for a search warrant, Ohio EPA personnel to sample such waste from the device and/or impoundment. This notice and sampling requirement shall remain in effect for five (5) years from the date of issuance of these Findings and Orders or until OPCo has completed three (3) boiler cleaning operations at Cardinal after the effective date of these Findings and Orders, whichever occurs first.

3. OPCo shall provide the Southeast District Office of Ohio EPA with equal portions of sludge samples it takes from materials presently in the surface impoundment at Cardinal.

4. OPCo shall not store, treat, dispose of or discharge any hazardous waste into, at, or from the Cardinal surface impoundment.

5. The Proposed Findings and Orders of October 23, 1983, denying Applicant's instant request for a variance, are hereby withdrawn and this matter is hereby dismissed.

IT IS SO ORDERED.

5/7/84
DATE

DIRECTOR OF ENVIRONMENTAL PROTECTION

AGREED TO AND APPROVED:

JOHN B. SHINNOCK, ESQ.
American Electric Power
Service Corporation
1 Riverside Plaza
Columbus, Ohio 43215
(614) 223-1622

Counsel for Applicant

Susan E. Flannery
MICHAEL C. DONOVAN
SUSAN E. FLANNERY
Assistant Attorneys General
30 East Broad Street, 17th Floor
Columbus, Ohio 43215
(614) 466-2766

Counsel for Ohio Environmental Protection Agency

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Vivian Davis Date 5/7/84

Ohio Environmental Protection Agency
ENTERED DIRECTOR'S JOURNAL
MAY 7 1984

4-13-83 10:30
Date and Time of Inspection

RCRA INTERIM STATUS INSPECTION FORM

HWFAB # 04-41-0226

PART 1. GENERAL INFORMATION

U.S. EPA I.D. # OHD051139202

Facility: Ohio Power Cardinal Pl Address: P.O. Box B, St. Rt. 7 City: Brilliant

State: Ohio Zip Code: 43913 County: Jefferson Telephone: 614-598-4164

INSPECTION PARTICIPANTS(S)

	(Name)	(Title)	(Telephone)
1.	J.D. Ludwig	Env. Engr Ohio Power	216-456-8173
2.	Dana Sheets	Assist. Engr. AEP	216-452-5721
3.	Charolette Stewart	Chemist Cardinal Pl.	614-598-4164

INSPECTOR(S)

1.	Mike Moschell	Insp.	614-385-8501
2.			
3.			

INSTALLATION ACTIVITY

Mark One

- ☐ Generator only (G)
- ☐ Transporter (T)
- ☐ TSDF only
- ☐ G-T
- ☑ G-TSDF
- ☐ T-TSDF
- ☐ G-T-TSDF

If the site is a TSDF, check the boxes indicating which regulations are applicable.

- ☑ General Facility Standards, Preparedness and Prevention, Contingency and Emergency, Manifests/Records/Reporting, Closure
- ☑ Containers S01
- ☐ Tanks S02/T01
- ☑ Surface Impoundments S04/T02
- ☐ Incineration/Thermal Treatment
- ☐ Waste Piles S03
- ☐ Land Treatment D81
- ☐ Landfills D80
- ☐ Chemical/Physical/ Biological T04
- ☐ Groundwater Monitoring
- ☐ Post-Closure

RCRA INTERIM STATUS INSPECTION FORM

	Yes	No	N/A	mark #
1. Has the facility submitted a Part A to Ohio?	✓			
2. If "yes", is it complete and accurate?	✓			
3. Has the facility submitted a Part B?		✓		

REMARKS, PART 1. GENERAL INFORMATION

Include a brief description of site activity and waste handling.

COAL FIRED Boiler Electric GENERATING STATION.
METAL CLEANING WASTE FROM Boiler TUBES TREATED + STORED IN LAGOON; PERMITTED DRUM STORAGE FOR Solvents.

Revised 9/15/82

RCRA INTERIM STATUS INSPECTION FORM

U.S. EPA I.D. NO. OHD051139202

PART 1. GENERAL INFORMATION

Facility: CARDINAL Power Plant Address: P.O. Box B

City: BRILLIANT State: OHIO Zip Code: 43913 Telephone: 614-598-4164

Facility Operator: CARDINAL OPERATING Co Title: _____ Telephone: 614-598-4164

Facility Owner: OHIO Power/Buckeye Power Address: 301 Cleveland Ave, S.W./P.O. Box 29149

City: CANTON/COLUMBUS State: OHIO/OHIO Zip Code: 44702/43229 Telephone: 216-456-8173

Type of Ownership: ✓ Private _____ Government State HWFAB No. 04-41-0226

Date of Inspection: 6-17-82 Time of Inspection: (Start) 10:15 am (Finish) 12:00

Advance Notification? ___ No ✓ Yes: 1 week notice

Weather Conditions: Cool, Cloudy

County: Jefferson

INSPECTION PARTICIPANT(S)

	(Name)	(Title)	(Telephone)
1.	DANA GIBSON	PERF. SUPER. ENGR.	598-4164
2.	CHARLOTTE STEWART	CHEMIST	598-4164
3.	DANA SHEETS	ENV. ENGR. - AEP.	216-452-5721
4.	DICK D'AUTEUIL	BUCKEYE POWER - ENV. ENGR.	846-5757
	JIM LUDWIG	OHIO POWER - ENV. ENGR.	216-456-8173 EXT. 6440

RCRA INTERIM S TUS INSPECTION FORM

INSPECTOR(S)

	(Name)	(Title)	(Telephone)
1.	MIKE Moschell	ENV. Sci.	385-8501
2.			
3.			
4.			

1. Type(s) of hazardous waste site activity: A. ✓ Generation B. ✓ Storage C. ✓ Treatment
   D. ____ Transportation E. ____ Disposal

2. Specific hazardous wastes handled at this facility (EPA HW#):
   a) Listed Wastes: F001 - List. Solvent (TRICHLOROETHYLENE)
   D007 - METAL CLEAN. WASTE

   b) Non-Listed Wastes: ✓ D001 I ____ D002 C ____ D003 R ____ D004 - D017 E
   D001 - STODDARD Solvent

3. Has this facility submitted a Part A Permit Application? ✓ Yes ____ No
4. Does this facility have a HWFAB Hazardous Waste Permit? ✓ Yes ____ No
5. Does this facility store, treat or dispose of any hazardous waste from any off-site domestic sources?

   ____ Yes, See Remark # ____ ✓ No

5. Does this facility store, treat or dispose of any hazardous waste from any foreign sources?

_____ Yes, See Remark # _____ ✓ No

6. Does this facility transport hazardous waste materials off-site for itself or other generators?

_____ Yes, Complete Part 3 (Transp.) ✓ No

a) Applicable U.S. EPA I.D. Number _____

b) Ohio P.U.C.O. GR TRSF Number _____

7. A brief description of site activity:

Electric generating station - Units 1+2 (590 MW coal-fired units, each) and Unit 3 (615 MW coal-fired unit). Unit 1 is owned by the Ohio Power Co. and units 2+3 are owned by Buckeye Power Co.

REMARKS, PART 1. (GENERAL INFORMATION)

PART 2. GENERATOR REQUIREMENTS

	Yes	No	N/A	Remark #
1. The hazardous waste(s) generated at this facility have been tested or are acknowledged to be hazardous waste(s) as defined in Sections 261 and 3745-51 in compliance with the requirements of Sections 262.11 and 3745-52-11.	✓			
2. Does this facility generate any hazardous wastes that are excluded from regulation under Sections 261.4 and 3745-51-04 (statutory exclusions) or Sections 261.6 and 3745-51-06 (recycle/reuse)?	✓			STODDARD Solvent Rec.
3. Does this facility have waste or waste treatment equipment that is excluded from regulation because of totally enclosed treatment (Sections 265.1(c)(9) and 3745-55-C-9 or via operation of an elementary neutralization unit and/or wastewater treatment unit (Sections 265.1(c)(10) and 3745-55-C-10.		✓		
4. The generator meets the following requirements with respect to the preparation, use and retention of the hazardous waste manifest:				
a) The manifest form used contains all of the information required by Sections 262.21(a), (b) and 3745-52-21-A-B and the minimum number of copies required by Sections 262.22 and 3745-52-22.	✓			#1 MERC. SAW MANIFESTED
b) The generator has designated at least one permitted disposal facility and has/will designate an alternate facility or instructions to return waste in compliance with Sections 262.20 and 3745-52-20.	✓			
c) Prepared manifests have been signed by the generator and initial transporter in compliance with Sections 262.23 and 3745-52-23.	✓			
d) The generator has complied with manifest exception reporting requirements (investigate after 35 days, report after 45 days) in Sections 262.42(a), (b) and 3745-52-42.	✓			
e) Signed copies of all hazardous waste manifests and any documentation required for Exception Reports are retained for at least 3 years as required by Sections 262.40 and 3745-52-40.	✓			

	Yes	No	N/A	Remark #
5. The generator meets the following hazardous waste pre-transport requirements:				
a) Prior to offering hazardous wastes for transport off-site the waste material is packaged, labeled and marked in accord with applicable DOT regulations (Sections 262.30, 262.31 and 262.32(a) and 3745-52-30, 52-31, and 52-32-A).	✓			
b) Prior to offering hazardous wastes for transport off-site each container with a capacity of 110 gallons (416 Liters) or less is affixed with a completed hazardous waste label as required by Sections 262.32(b) and 3745-52-32-B.	✓			
c) The generator meets requirements for properly placarding or offering to properly placard the initial transporter of the waste material in compliance with Sections 262.33 and 3745-52-33.	✓			
6. The generator meets the following recordkeeping and reporting requirements:				
a) The generator has submitted an annual report (if required) for all hazardous waste shipped off-site as required by Sections 262.41(a) and 3745-52-41-A-B.	✓			
b) The generator has submitted an annual report (if required) for all hazardous waste treated, stored or disposed of on-site as required by Sections 262.41(b) and 3745-52-41-C and in compliance with Sections 265.71 and 3745-55-71, when applicable.	✓			
7. Hazardous wastes imported from or exported to foreign countries are handled in accordance with the requirements of Sections 262.50 and 3745-52-50.			✓	
8. If the generator elects to store hazardous waste on-site in containers or tanks for 90 days or less without a RCRA storage permit as provided under Sections 262.34 and 3745-52-34, the following requirements with respect to such storage are met:			✓	Permitted Storage
a) Containers: the waste is stored in closed containers which meet all applicable DOT pre-transport requirements for packaging, labeling and marking.			✓	

	Yes	No	N/A	Remark #
b) The date that accumulation began is clearly marked on each container.	—	—	—	—
c) The area where containers are stored is inspected for evidence of leaks or corrosion at least weekly and such inspections are documented (265.174 and 3745-56-54).	—	—	—	—
d) Containers holding ignitable or reactive waste(s) are located at least 50 feet (15 Meters) from the property line (Sections 265.176 and 3745-56-56), and the general requirements for handling such wastes in Sections 265.17 and 3745-55-17 (physical separation, signs and safety) are met.	—	—	—	—
e) Tanks: the tank(s) are operated in compliance with the safety requirements of Sections 265.17, 265.192(b), 3745-55-17 and 56-72-B and are equipped with a waste-feed cutoff or bypass system as required in Sections 265.192(d) and 3745-56-72-D.	—	—	✓	No storage in tanks
f) Uncovered tanks have at least 2 feet (60 cm.) of freeboard unless they are equipped with a spill containment system with a capacity that equals or exceeds the volume that 2 feet of freeboard would otherwise provide (265.192 (c) and 3745-56-72-C).	—	—	—	—
g) Daily inspections are made of all systems pertinent to the proper operation of the tank: discharge and cutoff, monitoring equipment, tank level and freeboard (265.194 and 3745-56-74-A-B-C).	—	—	—	—
h) Weekly inspections are made of all tank construction materials and containment structures (265.194 and 3745-56-74-D-E).	—	—	—	—
9. The generator has provided a Personnel Training Program in compliance with Sections 265.16(a)(b)(c) and 3745-55-16-A-B-C including instruction in safe equipment operation and emergency response procedures, training new employees within 6 months and providing an annual training program refresher course (Sections 262.34 and 3745-52-34).	✓	—	—	—
10. The generator keeps all of the records required by Sections 265.16(d)(e) and 3745-55-16-D-E including written job titles, job descriptions and documented employee training records (Sections 262.34 and 3745-52-34).	✓	—	—	—

	Yes	No	N/A	Remark #
11. Whenever a tank is permanently taken out of service or upon closure of the facility all hazardous wastes and residues are removed and properly disposed of (Sections 265.197 and 3745-56-77) as referenced in Sections 262.34 and 3745-52-34.			✓	

NOTE: SHORT-TERM STORAGE FOR 90 DAYS OR LESS IN TANKS AND CONTAINERS ALSO REQUIRES THAT REGULATIONS IN SECTION 265, SUBPARTS C AND D (PREPAREDNESS AND PREVENTION PLUS CONTINGENCY AND EMERGENCY) AND 3745-55-30 THRU 37 AND 3745-55-50 THRU 70 BE MET. COMPLETE THESE SECTIONS OF THE INSPECTION FORM UNDER PART 4 - GENERAL INTERIM STATUS REQUIREMENTS.

REMARKS, PART 2. GENERATOR REQUIREMENTS

#1 A spill of mercury was manifested to CECOS.

PART 4. GENERAL INTERIM STATUS REQUIREMENTS

SUBPARTS INCLUDED

B: General Facility Standards
C: Preparedness and Prevention
D: Contingency and Emergency
E: Manifest/Records/Reporting
F: Ground Water Monitoring
G: Closure
H: Financial Requirements

Subpart B: General Facility Standards

	Yes	No	N/A	Remark #
1. The operator has a detailed chemical and physical analysis of the waste material containing all of the information which must be known to properly treat or store the waste as required by Sections 265.13(a)(1) and 3745-55-13-A-2.	✓			
2. The operator has a written waste analysis plan which describes analytical parameters, test methods, sampling methods, testing frequency and responses to any process changes that may affect the character of the waste* (Sections 265.13(b) and 3745-55-13-B). *the plan also provides for evaluation of each shipment of waste from off-site sources when necessary.	✓			
3. If required due to the actual hazards associated with the waste material, the operator has prevented unauthorized access to the active portions of the facility and has provided the following features and equipment (Sections 265.14 and 3745-55-14).				
a) 24 hour surveillance system, or	✓			
b) Artificial or natural barrier completely surrounding the active portion of the facility, and	✓			
c) Controlled entry (gates, monitors) to the active portion of the facility at all times (265.14(2)(ii) and 3745-55-14-B-2-b), and	✓			
d) "Danger-Unauthorized Personnel Keep Out" signs at each entrance to the active portion of the facility (265.14(c) and 3745-55-14-C).	✓			

	Yes	No	N/A	Remark #
4. The operator must develop and follow a comprehensive, written inspection plan and must document the inspections, malfunctions and any remedial actions taken in an operating record log which is kept for at least three years. The plan includes the following elements: (Sections 265.15 and 3745-55-15)	✓			
a) Inspect emergency equipment.	✓			
b) Inspect monitoring equipment.			✓	
c) Inspect security, alarm and communications devices.	✓			
d) Inspect process equipment (pipes, pumps, etc.).	✓			
e) Inspect containment structures (dikes, curbs, etc.).	✓			
f) Inspect facility for structural malfunctions (roof, floor, etc.).	✓			
g) Inspect hazardous waste handling/loading areas each day used.	✓			
h) Record of any malfunctions due to equipment or operator errors.	✓			
i) Record of any hazardous waste discharges.	✓			
5. The facility has provided a Personnel Training Program in compliance with Sections 265.16(a)(b)(c) and 3745-55-16-A-B-C including instruction in safe equipment operation and emergency response procedures, training new employees within 6 months and providing an annual training program refresher course.	✓			
6. The facility keeps all records required by Sections 265.16(d)(e) and 3745-55-16-D-E including written job titles, job descriptions and documented employee training records.	✓			
7. If required due to the actual hazards associated with Ignitable, Reactive or incompatible waste materials, the facility meets the following requirements (Sections 265.17 and 3745-55-17).	✓			

	Yes	No	N/A	Remark #
a) Protection from sources of ignition.	✓			
b) Physical separation of incompatible waste materials.	✓			
c) "No Smoking" or "No Open Flames" signs near areas where Ignitable or Reactive wastes are handled.	✓			
d) Any co-mingling of waste materials is done in a controlled, safe manner as prescribed by Sections 265.17(b) and 3745-55-17-B.			✓	No Co-Mingling

Subpart C: Preparedness and Prevention

1. Has there been a fire, explosion or non-planned release of hazardous waste at this facility? (265.31 and 3745-55-31).	✓			MERCURY SPILL
2. If required due to actual hazards associated with the waste material, the facility has the following equipment: (265.32 and 3745-55-32).	✓			
a) Internal alarm system	✓			
b) Access to telephone, radio or other device for summoning emergency assistance.	✓			
c) Portable fire control equipment.	✓			
d) Water at adequate volume and pressure via hoses sprinklers, foamers or sprayers.	✓			
3. All required safety, fire and communications equipment is tested and maintained as necessary; testing and maintenance are documented. (265.33 and 3745-55-33).	✓			
4. If required due to the actual hazards associated with the waste material, personnel have immediate access to an emergency communication device during times when hazardous waste is being physically handled (Sections 265.34 and 3745-55-34).	✓			

	Yes	No	N/A	Remark #
5. If required due to the actual hazards associated with the waste material, adequate aisle space to allow unobstructed movement or emergency or spill control equipment is maintained (265.35 and 3745-55-35).	✓			
6. If required due to the actual hazards associated with the waste material, the facility has attempted to make appropriate arrangements with local emergency service authorities to familiarize them with the possible hazards and the facility layout (265.37(a) and 3745-55-37-A).	✓			
7. Where state or local emergency service authorities have declined to enter into any proposed special arrangements or agreements the refusal has been documented (265.37(b) and 3745-55-37-B).			✓	

Subpart D: Contingency and Emergency

	Yes	No	N/A	Remark #
1. The facility has a written Contingency Plan designed to minimize hazards from fires, explosions or unplanned releases of hazardous wastes (265.51 and 3745-55-51) and contains the following components:	✓			
a) Actions to be taken by personnel in the event of an emergency incident.	✓			
b) Arrangements or agreements with local or state emergency authorities.	✓			
c) Names, addresses and telephone numbers of all persons qualified to act as emergency coordinator.	✓			
d) A list of all emergency equipment including location, physical description and outline of capabilities.	✓			
e) If required due to the actual hazards associated with the waste(s) handled, an evacuation plan for facility personnel (Sections 265.51(f) and 3745-55-51-F).	✓			
2. A copy of the Contingency Plan and any plan revisions is maintained on-site and has been submitted to all Local and State emergency service authorities that might be required to participate in the execution of the plan. (Sections 265.53 and 3745-55-53).	✓			

	Yes	No	N/A	Remark #
3. The plan is revised in response to facility, equipment and personnel changes or failure of the plan (265.54 and 3745-55-54).	✓			
4. An emergency coordinator is designated at all times (on-site or on-call) is familiar with all aspects of site operation and emergency procedures and has the authority to implement all aspects of the Contingency Plan (Sections 265.55 and 3745-55-55).	✓			
5. If an emergency situation has occurred, the emergency coordinator has implemented all or part of the Contingency Plan and has taken all of the actions and made all of the notifications deemed necessary under Sections 265.56 and 3745-55-56.			✓	NO EMERG

Subpart E: Manifests/Records/Reporting

NOTE: THE FOLLOWING REQUIREMENTS ARE APPLICABLE TO BOTH ON-SITE AND OFF-SITE TREATMENT, STORAGE AND DISPOSAL FACILITIES.

	Yes	No	N/A	Remark #
1. The operator maintains a written operating record at his facility as required by Sections 265.73 and 3745-55-73 which contains the following information:	✓			
a) Description and quantity of each hazardous waste treated, stored or disposed of within the facility and the date(s) and method(s) pertinent to such treatment storage or disposal (262.73(b)(1) and 3745-55-73-B-1).	✓			
b) Common name, EPA Hazardous Waste Identification Number and physical state (liquid, solid, gas) of the waste(s).	✓			
c) The estimated (or actual) weight, volume or density of the waste material(s).	✓			
d) A description of the method(s) used to treat, store or dispose of the waste(s) using the EPA Handling Codes listed in 45 FR 33252 (May 19, 1980).	✓			

	Yes	No	N/A	Remark #
e) The present physical location of each hazardous waste within the facility.	✓			
f) FOR DISPOSAL FACILITIES, the location and quantity of each hazardous waste recorded on a map of the facility and cross-references to any pertinent manifest document number(s) (265.73(b)(2) and 3745-55-73-B-2).				
g) Records of any waste analyses and trial tests required to be performed.				
h) Records of the inspections required under Sections 265.15 and 3745-55-15 (General Inspection Requirements - Subpart B).				
i) Records of any monitoring, testing or analytical data required under other Subparts as referenced by Sections 265.73(b)(6) and 3745-55-73-B-6.				
j) Records of Closure cost estimates and Post-Closure (DISPOSAL ONLY) cost estimates required under Subpart H and Section 3745-56-30, 32 and 34.				
2. The operator has submitted an annual Treatment-Storage-Disposal Operating Report (by March 1) containing all of the operating information required under Sections 265.75 and 3745-55-75.	✓			

NOTE: THIS REPORT IS NOT THE SAME AS THE REPORT REQUIRED TO BE FILED BY GENERATORS UNDER SECTIONS 262.41 AND 3745-52-41.

3. When applicable, the operator has submitted reports on releases of hazardous wastes, fires, explosions, groundwater contamination data and facility closure (265.77 and 3745-55-77).			✓	

NOTE: THE FOLLOWING REQUIREMENTS ARE APPLICABLE TO ONLY OFF-SITE TREATMENT, STORAGE AND DISPOSAL FACILITIES.

4. Manifests received by the facility are signed and dated; one copy is given to the transporter, one copy is sent to the generator within 30 days and one copy is kept for at least 3 years (Sections 265.71 and 3745-55-71).				

	Yes	No	N/A	Remark #
a) If shipping papers are used in lieu of manifests (bulk shipments, etc.) the same requirements are met (265.71(b) and 3745-55-71-B).	___	___	___	_____
b) Any significant discrepancies in the manifest, as defined in Sections 265.72(a) and 3745-55-72-A, are noted in writing on the manifest document (Sections 265.71(a)(2) and 3745-55-71-A-2).	___	___	___	_____
5. Any manifest discrepancies have been reconciled within 15 days as required by Sections 265.72(b) and 3745-55-72-B or the operator has submitted the required information to the Regional Administrator/Director.	___	___	___	_____
6. If the facility has accepted any unmanifested hazardous wastes from off-site sources (except from small quantity generators) for treatment, storage or disposal an unmanifested waste report containing all the information required by Sections 265.76 and 3745-55-76 has been submitted to the Regional Administrator/ Director within 15 days.	___	___	___	_____

Subpart F: Groundwater Monitoring

NOTE: THESE REQUIREMENTS ARE APPLICABLE TO SURFACE IMPOUNDMENTS, LANDFILLS AND LAND TREATMENT FACILITIES ON AND AFTER NOVEMBER 19, 1981.

	Yes	No	N/A	Remark #
1. The facility has implemented one or more of the following alternatives with respect to the Groundwater Monitoring requirements in Sections 265.90(a) and 3745-55-90-A:				
a) A Groundwater Monitoring System meeting the minimum requirements of Sections 265.91 and 3745-55-91 has been installed which is sampled, tested and operated in accordance with the requirements of Sections 265.92, 265.93, 265.94, 3745-55-92, -93 and -94.	___	X	___	_____

	Yes	No	N/A	Remark #
b) A waiver of all or part of the Groundwater Monitoring requirements has been obtained by demonstrating a low potential for the migration of hazardous wastes and constituents in accordance with the requirements of Sections 265.90(c) and 3745-55-91-C.		X		WAIVER Requested
c) An alternate Groundwater Monitoring System Plan that was first submitted to the Regional Administrator/Director was implemented and is operated and maintained in accordance with Sections 265.90(d) and 3745-55-90-D.			X	

Subpart G: Closure and Post-Closure

NOTE: THE FOLLOWING REQUIREMENTS ARE APPLICABLE TO BOTH DISPOSAL AND NON-DISPOSAL FACILITIES:

	Yes	No	N/A	Remark #
1. A written Closure Plan is on file at the facility and contains the following elements: (Sections 265.112 and 3745-56-03)	✓			
a) A description of how and when the facility will be closed (265.112(a)(1) and 3745-56-03-A-1).	✓			
b) A description of how any of the applicable closure requirements in other Subparts of Sections 265 and 3745-55,-56,-57,-58 (Tanks, Surface Impoundments, Landfills, etc.) will be carried out.	✓			
c) An estimate of the maximum amount of hazardous wastes being treated or in storage at the facility.	✓			
d) A description of steps taken to decontaminate facility equipment.	✓			
e) The year closure is expected to begin and a list of dates over which the various phases of closure are expected to be completed.	✓			
2. The Closure Plan has been amended within 60 days in response to any changes in facility design, processes or closure dates.	✓			

	Yes	No	N/A	Remark #
3. The Closure Plan has been submitted to the Regional Administrator/Director 180 days prior to beginning the Closure process.			✓	No Closure
4. If Closure has been completed, the facility was closed in a manner which minimizes any future problems in compliance with the Closure performance standard in Sections 265.111 and 3745-56-02.			✓	
a) The facility has been closed within the time limits specified in Sections 265.113 and 3745-56-04.				
b) Upon completion of Closure all facility equipment and structures were decontaminated and any hazardous residues were properly disposed of (265.114 and 3745-56-05).				
c) Completion of Closure has been certified to the Regional Administrator by the Owner/Operator and an independent Professional Engineer (265.115 and 3745-56-06).				

NOTE: THE FOLLOWING REQUIREMENTS ARE APPLICABLE TO ONLY DISPOSAL FACILITIES.

5. A written Post-Closure Plan is on file at the facility which describes all Post-Closure activities and addresses all of the plan elements required by Sections 265.118(a) and 3745-56-08-A.			X	
6. The Post-Closure Plan has been amended within 60 days in response to any changes in facility design or operation.				
7. The Post-Closure Plan has been submitted to the Regional Administrator/Director 180 days prior to beginning Closure.				
8. The Owner/Operator has submitted all of the information on prior use of the property required in Sections 265.119 and 3745-56-10 to the Local Land Authority within 90 days after Closure is completed.				

	Yes	No	N/A	Remark #
9. The property owner has attached a notation to the property deed or other instrument which will notify any potential purchaser that the property has been used to manage hazardous waste and future use of the property is restricted under Sections 265.117(c) and 3745-56-08-C as required in Sections 265.120 and 3745-56-10.			X	

Subpart H: Financial Requirements

	Yes	No	N/A	Remark #
1. A written cost estimate for Closure of the facility (by the methods and procedures specified in the facility Closure Plan) is available for review on and after May 19, 1981 (Sections 265.142 and 3745-56-32).	✓			

NOTE: REGULATIONS PROMULGATED IN 46 FR 2877-2892 IN REGARD TO FINANCIAL REQUIREMENTS HAVE BEEN STAYED UNTIL ~~OCTOBER~~ APRIL 13, 1981 AND MAY BE AMENDED OR REPROPOSED AT THAT TIME.

REMARKS, PART 4. GENERAL INTERIM STATUS REQUIREMENTS

PART 5. TREATMENT/STORAGE/DISPOSAL

SUBPARTS INCLUDED

I: Management of Containers	L: Waste Piles	O: Incinerators
J: Management of Tanks	M: Land Treatment	P: Thermal Treatment
K: Surface Impoundments	N: Landfills	Q: Chemical/Physical/Biological Treatment

Subpart I: Management of Containers

	Yes	No	N/A	Remark #
1. Hazardous wastes are stored in closed containers which are in good physical condition and are compatible with the wastes stored in them (Sections 265.171, .172, .173 and 3745-56-51,-52-53).	✓			
2. The area where containers are stored is inspected for evidence of leaks or corrosion at least weekly and such inspections are documented (265.174 and 3745-56-54).	✓			

NOTE: FACILITIES OPTING FOR LONG TERM STORAGE ARE NOT REQUIRED TO MEET PRE-TRANSPORT LABELING REQUIREMENTS UNTIL THE CONTAINERS ARE ACTUALLY OFFERED FOR TRANSPORT AND ARE NOT REQUIRED TO AFFIX AN ACCUMULATION DATE. (SECTIONS 262 AND 3745-52)

	Yes	No	N/A	Remark #
3. Containers holding Ignitable or Reactive waste(s) are located at least 50 feet (15 Meters) from the property line and the general requirements for handling such wastes in Sections 265.17 and 3745-55-17-B (physical separation, signs and safety) are met (265.176 and 3745-56).	✓			
4. Incompatible waste materials are not placed in the same containers or put in contaminated containers unless it is done under completely controlled and safe conditions as specified in Sections 265.17(b) and 3745-55-17-B (Sections 265.177(a), (b) and 3745-56-57-A-B).	✓			

	Yes	No	N/A	Remark #
5. Containers holding hazardous wastes are never stored near other materials which may interact with the waste in a hazardous manner (Sections 265.177 (C) and 3745-56-57-C).	✓			

Subpart J: Storage in Tanks

1. The tank(s) are operated in compliance with the safety requirements of Sections 265.17, 265.192(b), 3745-55-17 and 3745-56-72-B and are equipped with a waste-feet cutoff or bypass system as required in Sections 265.192(d) and 3745-56-72-D.				
2. Uncovered tanks have at least 2 feet (60 cm.) of freeboard unless they are equipped with a spill containment system with a capacity that equals or exceeds the volume that 2 feet of freeboard would otherwise provide (265.192 (c) and 3745-56-72-C).				
3. Daily inspections are made of all systems pertinent to the proper operation of the tank: discharge and cutoff, monitoring equipment, tank level and freeboard (265.194 and 3745-56-74).				
4. Weekly inspections are made of all tank construction materials and containment structures (265.194 and 3745-56-74).				
5. Whenever tanks are used to treat or store wastes substantially different from previous wastes or when substantially different treatment processes are used in the tank, the facility has insured the safety of such changes by one or both of the following methods: (Sections 265.193(a) and 3745-56-73-A).				
a) A complete waste analysis plus bench scale tests or pilot tests were conducted prior to implementing the proposed changes and all data is on file in the facility operating record.				
b) Written, documented information on similar storage or treatment process changes was obtained prior to implementing the proposed changes and all documentation is on file in the facility operating record.				

	Yes	No	N/A	Remark #
6. With the exception of emergency situations, whenever Ignitable or Reactive wastes are placed in tanks the facility has insured the safety of the operation by one or both of the following methods, (Sections 265.198(a) and 3745-56-78).				
a) The waste is treated immediately before or after being placed in the tank so that it is no longer Ignitable or Reactive and such treatment is done in compliance with the safety requirements of Sections 265.17(b) and 3745-55-17-B.				
b) The waste is stored or treated under protected conditions eliminating the possibility of ignition or reaction.				
7. Covered tanks used to treat or store Ignitable or Reactive wastes are in compliance with NFPA buffer zone requirements (Flammable and Combustible Code-1977) (Sections 265.198(b) and 3745-56-78-B).				
8. Incompatible waste materials are not placed in the same tanks or put in contaminated tanks unless it is done under completely controlled and safe conditions as specified in Section 265.17(b) (Sections 265.199 and 3745-56-79).				
9. Whenever a tank is permanently taken out of service or upon closure of the facility all hazardous wastes and residues are removed and properly disposed of (Sections 265.197 and 3745-56-77).				

Subpart K: Surface Impoundments

1. The Surface Impoundment is designed to operate with at least 2 feet (60 cm.) of freeboard and has a structural containment system adequate to contain the waste material (Sections 265.222 and 3745-57-03).	✓			
2. Earthen structural containment systems are equipped with protective cover such as grass, shale or rock to minimize erosion from wind and water (265.22 and 3745-57-04).	✓			Bottom ash used over liner.

	Yes	No	N/A	Remark #
3. The level of freeboard in the Surface Impoundment is inspected at least once each operating day, the structural containment system is inspected at least once per week and all such inspections are documented (Sections 265.226 and 3745-57-07).	✓			
4. Has the facility ever recorded an unplanned release of hazardous waste from the Surface Impoundment(s)? (Sections 265.15 and 3745-55-15).		✓		
5. Whenever Surface Impoundments are used to treat or store wastes substantially different from previous wastes or when substantially different treatment processes are used in the Surface Impoundment, the facility has insured the safety of such changes by one or both of the following methods (265.225 and 3745-57-06).			✓	
a) A complete waste analysis plus bench scale or pilot tests were conducted prior to implementing the proposed changes and all data is on file in the facility operating record.				
b) Written, documented information on similar storage or treatment process changes was obtained prior to implementing the proposed changes and all documentation is on file in the facility operating record.				
6. With the exception of emergency situations, whenever Ignitable or Reactive wastes are placed in Surface Impoundments the facility has insured the safety of the operation by the following method (Sections 265.229 and 3745-57-10).			✓	
a) The waste is treated immediately after placement in the Surface Impoundment so that it is no longer Ignitable or Reactive and such treatment is done in compliance with the safety requirements of Sections 265.17(b) and 3745-55-17-B.				
7. Incompatible materials are never placed in the same Surface Impoundment unless it is done in compliance with the safety requirements of Section 265.17(b) (Sections 265.230 and 3745-57-11).	✓			

	Yes	No	N/A	Remark #
8. As required by Subpart F, Sections 265.90 and 3745-55-90 (Groundwater Monitoring) the facility has implemented a groundwater monitoring program capable of determining the impact of the Surface Impoundment(s) on the quality of the groundwater in the uppermost aquifer underlying the facility.		✓		
9. In lieu of a groundwater monitoring program, the operator has a written demonstration that there is a low potential for migration of hazardous waste or constituents via ground or surface waters which has been certified in writing by a qualified geologist in compliance with Sections 265.90(c) and 3745-55-90-C.	✓			WAIVER Requested
10. Upon closure of the Surface Impoundment, the operator intends to remove all wastes, residues, liners and any contaminated soil as required by Sections 265.228 and 3745-57-09 in order to exempt the Surface Impoundment from further regulation under Section 265.	✓			

NOTE: IF THE OPERATOR ELECTS NOT TO EXEMPT THE SURFACE IMPOUNDMENT FROM FURTHER REGULATION BY REMOVING ALL WASTE MATERIALS, THE SURFACE IMPOUNDMENT IS SUBJECT TO THE POST-CLOSURE CARE AND GROUNDWATER MONITORING REQUIREMENTS SPECIFIED IN SUBPART G FOR DISPOSAL FACILITIES AND SUBPART N, SECTION 265.310 FOR LANDFILLS. (SECTIONS 265.228 AND 3745-57-09).

Subpart L: Storage in Waste Piles

	Yes	No	N/A	Remark #
1. Waste materials which are subject to dispersal by wind have been adequately protected against such dispersal (Sections 265.251 and 3745-57-31).				
2. If leachate or runoff from a Waste Pile would be a hazardous waste, then one or more of the following steps have been taken to prevent or properly manage the situation (Sections 265.253 and 3745-57-33).				
a) The pile has been placed on an impermeable base, run-on has been diverted away from the pile and any leachate or runoff is collected and managed as a hazardous waste.				

OhioEPA
State of Ohio Environmental Protection Agency

Southeast District Office
2195 Front Street
Logan, Ohio 43138-9031
(614) 385-8501
FAX (614) 385-6490

George V. Voinovich
Governor

November 24, 1992

RE: JEFFERSON COUNTY
OHIO POWER CARDINAL PLANT
CEI

Mr. Everett L. Townley
Plant Manager
Cardinal Operating Company
Cardinal Plant
P. O. Box B
Brilliant, OH 43913

Dear Mr. Townley:

On November 5, 1992, the Southeast District Office of the Ohio EPA conducted an NPDES Compliance Evaluation Inspection (CEI) at the Cardinal Plant located in Wells Township, Jefferson County, Ohio. During the inspection Ken Early and Ryszard Lecznar of Ohio EPA were accompanied by Chet Stromsky and Joel Milliken of Ohio Power Cardinal Operating Company. The purpose of the inspection was to determine the company's compliance status with the terms and conditions of NPDES Permit Number OIB00009*HD. Samples of the company's wastewater discharges were not collected for chemical analysis during the CEI. As a result of our inspection, we have the following comments and/or concerns.

1. Since the last inspection on December 17, 1991, at least four unauthorized bypass/overflow events have occurred at the Cardinal Plant. These events are listed as follows:

   a. June 15, 1992 - Unit 3 demineralizer sump overflow to Salt Run of approximately 4,350 gallons.

   b. June 30, 1992 - The bypass of coal pile runoff wastewater to the Ohio River, due to a break in the discharge pipeline from the No. 2 coal pile runoff collection pond. Reportedly a small volume was discharged. In any case, the actual volume is unknown.

   c. August 28, 1992 - The overflow of approximately 58,500 gallons of wastewater from the No. 2 coal pile runoff collection pond to the Ohio River, due to excessive rainfall and failure of the pond pumping system.

   d. September 11, 1992 - The bypass of approximately 8,000 gallons of fly ash slurry to Riddles Run, due to failure of a slurry transport pipeline.

Unauthorized discharges must be eliminated. We suggest implementation of more thorough inspection and maintenance procedures for the wastewater handling and treatment facilities, to prevent the recurrence of unauthorized discharges. Our records also show repetitious bypasses of fly ash slurry during at least the past two years. This calls for more diligent efforts to eliminate this problem. In your response to this letter, please describe your program to eliminate future overflows/bypasses.

2. The sewage treatment plant which discharges via outfall 006 and serves Units 1 and 2 of the Cardinal plant, appeared to have proper operation and maintenance (O&M). However, some weeds were growing in one of the sand filters. These weeds should be removed and the sand filters must be kept free of weeds. The sewage treatment plant which discharges via outfall 008 also appeared to be properly operated.

3. The U.S. EPA DMR-QA Study, dated July 28, 1992, listed Cardinal's analysis for carbonaceous BOD as "not acceptable." The Ohio EPA Division of Environmental Services has received your explanation concerning this matter and no further information is requested at this time.

4. During the inspection, we observed the discharge from the fly ash pond (outfall 019) at the parshall flume. The discharge is monitored by a flow meter and by grab samples taken manually at the parshall flume. The flow monitoring and method of sampling appeared adequate. The discharge was slightly turbid and slightly gray. Outfall 019 discharges to Blackhouse Hollow.

5. During the inspection, we observed the stormwater outfalls No. 010, 011, 012 and 018. Outfall 011 was discharging dark brown stormwater runoff, obviously containing an elevated concentration of suspended solids and possibly other contaminants. According to Chet Stromsky, this outfall handles stormwater from approximately two acres, which is mostly covered (filled) with bottom ash and/or other coal related materials, from plant operations. Your NPDES permit does not authorize your company to discharge process related contaminants present due to plant operations via this outfall.

Therefore, the discharge of contaminated stormwater must be eliminated. We recommend improving the existing stormwater runoff Best Management Practices in the area around the inlet structure(s), or implementing other practices to prevent contaminants from discharging to the Ohio River. If you cannot eliminate the discharge of contaminants by the use of Best Management Practices, you may need to install a sump (collection basin) and a pump station to pump the stormwater runoff to the existing settling ponds for treatment.

At the time of the inspection, there was no discharge via outfalls 010 and 018. Outfall 012 was discharging stormwater runoff which was slightly cloudy, however, the discharge appeared to be free of process related contaminants from plant operations.

5. During the inspection, Joel Milliken indicated the company's/plant SPCC plan had been updated. In your response to this letter, please include the date that the plan was last updated.

Based upon the visual observation of the plant and associated wastewater effluents, the Cardinal Operating Company is considered in compliance with NPDES Permit No. OIB00009*HD, except for the areas of observed problems as stated in this letter.

Please submit to this office, within 30 days of receipt of this letter, a written response to this letter addressing the above mentioned problem areas.

If you have questions, please contact Ken Early of this office.

Sincerely,

David D. Schuetz, P.E.
Unit Supervisor
Southeast District Office
Division of Water Pollution Control

By: Ken Early
District Engineer
Div. of Water Pollution Control

DDS/jw

cc: Heidi Sorin, DWPC, CO (w/encl.)

OhioEPA

Re: Jefferson County
Ohio Power Company
Cardinal Plant
Hazardous Materials
#04-41-0226

Dick D'Auteuil
Buckeye Power Company
P.O. Box 29149
Columbus, Ohio 43229

June 28, 1982

Gentlemen:

On June 17, 1982, Ohio EPA conducted an inspection of your Cardinal facility to determine compliance with State and Federal hazardous waste regulations. Mr. Dana Gibson and Ms. Charlotte Stewart represented Cardinal Operations, and Mr. Dana Sheets represented American Electric Power Company.

At the time of inspection, no deficiencies were found in the hazardous materials program at this facility other than the groundwater monitoring requirements. It is my understanding that a request for a waiver of the groundwater monitoring requirements for the surface impoundment has been submitted to Ohio EPA for review.

A copy of the inspection form is enclosed. Please call if there are any questions. Also, please send a copy of the contingency and closure plans to this office, for our files.

Sincerely,

Michael Moschell
Environmental Scientist
Division of Hazardous Materials Management

MM:dm

cc: Paula Cotter, DHMM, C.O.
cc: Bob Fragale, HMFAB
cc: [redacted]

Re: Application Number 81-HW-0226
Jefferson County

September 4, 1981

M

R. H. Walton, Plant Manager
Ohio Power Company/Cardinal Plant
P.O. Box B
Brilliant, Ohio 43913

Dear Mr. Walton:

On August 20, 1981, Steve Hamlin of the Ohio EPA conducted an inspection of your facility as part of the Hazardous Waste facility permit review process. Your facility was represented by yourself.

Enclosed are two forms. The one titled "TREATMENT, STORAGE AND DISPOSAL FACILITY" is a copy of the form used during the inspection to evaluate your facility.

The other form, "DEFICIENCY NOTIFICATION TABLE", relates to the "TREATMENT, STORAGE AND DISPOSAL FACILITY" form and specifies what action must be taken where deficiencies were noted. A mark in column four of the "DEFICIENCY NOTIFICATION TABLE" denotes a violation of current regulations or pinpoints areas which will be covered by regulations not yet effective. The capital letter codes in column four are explained on the last page of the "DEFICIENCY NOTIFICATION TABLE".

You are hereby advised that total compliance with the regulations contained in 40 CFR 265 is required as a condition of continuing interim status with the U.S. EPA. Failure to list specific deficiencies in this communication does not relieve you from the responsibility of complying with all applicable regulations.

Very truly yours,

Paul Flanigan

Paul Flanigan, P.E.
Hazardous Waste Materials Management

PF/maf

cc: Kathleen Homer, USEPA, Region V
Steve Hamlin, SEDO

CERTIFIED MAIL

RCRA INSPECTION REPORT

INTERIM STATUS STANDARDS, TREATMENT, STORAGE AND DISPOSAL FACILITIES

DEFICIENCY NOTIFICATION TABLE

ISS INSPECTION

FACILITY NO. - 81-HW-0226
OWNER - Ohio Power Co
FACILITY NAME - Cardinal Plt
FACILITY LOCATION - P.O. Box B, Brilliant, Ohio 43913
FACILITY CONTACT - R.H. Walton
ISS INSPECTION DATE - 8/20/81 PHONE NO. - (614) 598-4164

Page	COLUMN I Item No.			COLUMN II OAC Reference	COLUMN III USEPA Reference	COLUMN IV See Code Following	COLUMN V Refer To ISS Remark	COLUMN OEPA Use
3	III	A	1	3745-55-12(A)	265.12 (A)			
			2					
		B	1	3745-55-13	265.13			
			2	3745-55-13	265.13			
			3	"	"			
		C	1	3745-55-14	265.14			
			2	"	"			
			3	"	"			
			4	"	"			
		D	1	3745-55-15	265.15			
			2	"	"			
			3	"	"			
4			4	"	"			
			5	"	"			
			6	"	"			
			7	"	"			
			8	"	"			
		E	1	3745-55-16	265.16			
			2	"	"			
			3	"	"			
			4	"	"			
			5	"	"			
			6	"	"			
		F	1	3745-55-17	265.17			
			2	"	"			
			3	"	"			
5	IV	A		3745-55-31	265.31			
		B	1	3745-55-32	265.32			
			2	"	"			
			3	"	"			
		C	1	3745-55-33	265.33			
			2	"	"			
		D		3745-55-34	265.34			
		E		3745-55-35	265.35			
6	V	A	1	3745-55-52	265.52			

Page	Item No.			COLUMN II OAC Reference	COLUMN III USEPA Reference	COLUMN IV See Code Following	COLUMN V Refer To ISS Remark	COLUMN V OEPA Use
(con't.)	V	A	2	3745-55-52	265.52			
			3	"	"	13	✓	
			4	"	"			
			5	"	"			
7		B		3745-55-53	265.53		✓	
		C	1	3745-55-55	265.55			
			2	"	"			
			3	"	"			
		D		3745-55-56	"			
	VI	A	1	3745-55-71	265.71			
			2	"	"			
		B		3745-55-72	265.72			
8		C	1	3745-55-73	265.73			
			2b	"	"			
			c	"	"			
			d	"	"			
			e	"	"			
			f	"	"			
			g	"	"			
9	VII	A	1	3745-56-03	265.112			
			2	"	"			
			3	"	"			
			4	3745-56-32	265.142			
		B	1	3745-56-09	265.118			
			2	"	"			
			3	"	"			
			4	3745-56-34	265.143			
	VIII	I	1	3745-56-51	265.171			
			2	3745-56-52	265.172			
			3	3745-56-53	265.173			
			4	"	"			
[redacted]			5	3745-56-54	265.174	G		
			6	3745-56-56	265.176			
10			7	3745-56-57	265.177			
			8					
		J	1	3745-56-72	265.192			
			2	"	"			
			3	"	"			
			4	3745-56-73	265.193			
			5	3745-56-74	265.194			
			6	3745-56-78	265.198			
11			7	3745-56-79	265.199			
			8	3745-56-78	265.198			
		K	1	3745-57-03	265.222			
			2	3745-57-04	265.223			
			3	3745-57-06	265.225			
			4	3745-57-07	265.226			
			5	"	"	B	✓	
			6	3745-57-10	265.229			
12			7	3745-57-11	265.230			

Page	COLUMN I Item No.			COLUMN II OAC Reference	COLUMN III USEPA Reference	COLUMN IV See Code Following	COLUMN V Refer to ISS Remark	COLUMN VI OEPA USE
12		L	1	3745-57-31	265.251			
			2	3745-57-32	265.252			
			3	3745-57-33	265.258			
			4	3745-57-36	265.256			
			5	"	"			
			6	3745-57-37	265.257			
			7	3745-57-37	265.257			
13		M	1	3745-57-52	265.272			
			2	"	"			
			3	3745-57-53	265.273			
			4	3745-57-56	265.276			
			5	3745-57-58	265.278			
			6	3745-57-58	265.278			
			7	3745-57-59	265.279			
			8	3745-57-61	265.281			
			9	3745-57-62	265.282			
14	N	A	1	3745-57-72	265.302			
			2	"	"			
			3	"	"			
			4	"	"			
		B	1	3745-57-79	265.309			
			2	"	"			
		C	1	3745-56-03	265.112			
			2	"	"			
			3	"	"			
			4	3745-56-32	265.192			
		D		3745-57-82	265.312			
				3745-55-17	265.17(b)			
15		E		3745-57-83	265.313			
				3745-55-17	265.17(b)			
		F	1	3745-57-84	265.314			
			2	"	"			
			3	"	"			
			4	"	"			
		G		3745-57-85	265.315			
16		O&P						
	I	B	1	3745-58-33	265.373			
			2	"	"			
			3	"	"			
			4	"	"			
			5	"	"			
	II	A	1a	3745-58-35	265.375			
			b	"	"			
			c	"	"			
17			2a	3745-58-35	265.375			
			b	"	"			
		B	1	"	"			
			2	"	"			
			3	"	"			
			4	"	"			
			5	"	"			

Page	COLUMN I Item No.			COLUMN II OAC Reference	COLUMN III USEPA Reference	COLUMN IV See Code Following	COLUMN V Refer to ISS Remark	COLUMN OEPA USE
17 (Con't)	III	A		3745-58-37	265.377			
		B		"	"			
		C		"	"			
		D		"	"			
		E		"	"			
		F		"	"			
		G		"	"			
	IV	A	1	3745-58-42	265.382			
			2	"	"			
19		Q	1	3745-58-51	265.401			
			2	"	"			
			3	3745-58-52	265.402			
			4	3745-58-53	265.403			
			5	3745-58-55	265.405			
			6	3745-58-56	265.406			
20	IX	I	(A)	3745-52-40	262.40			
			(B) 1	3745-52-21	262.21			
			2	"	"			
			3	"	"			
			4	"	"			
			5	"	"			
			6	"	"			
			7	"	"			
			8	3745-50-42	122.6			
			(C)	3745-52-42	262.42			
21			1	3745-52-42	"			
			2	"	"			
			(D) 1	3745-52-42	262.42			
			2	"	"			
		2	(A)	3745-52-30	262.30			
			(B)	3745-52-31	262.31			
			(C)	3745-52-33	262.33			
22		3	1	3745-52-34	262.34			
			2	"	"			
			3	3745-56-54	265.174			
			4a	3745-56-72	265.192			
			b	"	"			
			c	"	"			
			d	3745-56-74	265.184			
			e	3745-56-78	265.198			
			f	3745-56-79	265.199			
23		VI	A	3745-52-40	262.40			
			B	3745-52-41	262.41			
		VII	1a	3745-52-50	262.50			
			b	"	"			
			c	"	"			
			2	"	"			
24	X	I		3745-53-22	263.22			
		II	A	3745-53-20	263.20			
			B	"	"			
		V	A	3745-53-10	263.10			
			B	3745-53-10	"			

KEY TO CODED ITEMS (COLUMN IV)

A. Because the inspection at this facility was conducted prior to May 19, 1981, requirements which became effective on that date were not checked. These requirements are now effective and must be met as a condition of interim status under the federal regulations and as part of the considerations for issuance of an Ohio Hazardous Waste Permit.

B. or C. The inspection revealed a deficiency in compliance with this item, which must be satisfactorily corrected. A determination of compliance will be made in the future.

D. The inspection revealed a violation of regulations pertaining to this item. Since the environmental consequences of this violation may be quite serious this problem must be corrected as soon as possible. We will schedule another inspection no sooner than 20 days after the date of this letter to determine if compliance has been achieved. Further steps in the permitting process will be delayed until the re-inspection.

E. Regulations concerning this item will become effective November 19, 1981. These requirements were not addressed in the inspection, but compliance is required by November 19, in order to meet federal interim status requirements and as a part of the considerations in issuing an Ohio Hazardous Waste Permit.

F. Inspection revealed non compliance with this item. Compliance with this item is required unless a facility has filed as a storage facility. You should either correct the deficiency listed or file an amended Part A application for a storage facility.

G. NFPA's code requires that the tanks be located 50 feet from the property line.

TSDF TELEPHONE ASSESSMENT SURVEY

FACILITY NAME Ohio Power - Cardinal Plt EPA I.D. No. 81-HW-0226

CONTACT Walton TITLE Plt Mngr PHONE 614-598-4164
Jim Ludwig Env. Eng 216-456-3173

1. Does your facility wish to proceed with the Part A application for a Hazardous Waste Treatment/Storage/Disposal permit which was submitted to the Ohio EPA ?

   ☑ YES, ☐ NO: Please submit a letter of retraction.

2. Does your facility Generate hazardous waste ?

   ☐ NO, ☑ YES: Section 262 applies (generator standards).

3. Does your facility Transport hazardous waste off-site for itself or other generators ? No shipments to date Only maintain transporter status

   ☐ NO, ☑ YES: Section 263 applies (transporter standards).

4. Does your facility ☑ Treat, ☑ Store or ☐ Dispose of hazardous wastes ? solvents burned for heat value

   If so, Section 265 Subparts B,C,D,E,F,G and H may be applicable.

5. Type(s) of Storage/Treatment:

   ☑ Containers (Subpart I)

   ☐ Tanks (Subpart J)

   ☑ Surface Impoundments (Subpart K)

   ☐ Waste Piles (Subpart L)

6. Type(s) of Treatment/Disposal:

   ☐ Land Treatment (Subpart M)

   ☐ Landfill (Subpart N)

   ☐ Incineration (Subpart O)

   ☐ Thermal Treatment (Subpart P)

   ☑ Chemical/Physical/Biological (Subpart Q) (~~lime neutralization~~)

   ☐ Underground Injection (Subpart R)

EPA 9001

Part A
S01
S04
T02

I 55
Containers
Surface Imp.

STATE IDENTIFICATION NUMBER
81-HW-

OHD051139202
EPA IDENTIFICATION NUMBER
051139202

TREATMENT, STORAGE, AND DISPOSAL FACILITIES
Form A.- General Facility Standards

I. General Information:

(A) Facility Name: Cardinal Operating Co.

(B) Street: P.O. Box B

(C) City: Brilliant (D) State: Ohio (E) Zip Code: 43913

(F) Phone: 614-598-4164 (G) County: Jefferson

(H) Operator: Same as (A)

(I) Street:

(J) City: (K) State: (L) Zip Code

(M) Phone: (N) County:

(O) Owner: Ohio Power - Buckeye Power

(P) Street: 301 Cleveland Ave. S.W.

(Q) City: Canton (R) State: Ohio (S) Zip Code: 44702

(T) Phone: 216-456-8173 (U) County: Stark

(V) Date of Inspection: 8-20-81 (W) Time of Inspection (From) 10:00 am (To) 1:00 pm

(X) Weather Conditions: Clear & warm

(Y) Person(s) Interviewed	Title	Telephone
Walton	Plt. Mngr.	614-593-4164
J.L. Grendlspacher	Chemist	"
R. D'autevil	Env. Engr - Buckeye Columbus	614-846-5757

(Z) Inspection Participants	Agency/Title	Telephone
Jim Ludwig	Ohio Power - Env. Engr	216-456-8173/ext 6440
Dana Scheets	AEP - Env. Engr	216-452-5721 (ext 647
Steve Hamlin	Ohio EPA	614-385-8501

(AA) Preparer Information

Name	Agency/Title	Telephone
Steve Hamlin	Ohio EPA	614-385-8501

II. SITE ACTIVITY:

Complete sections I through VII for all treatment, storage, and/or disposal facilities. Complete the forms (in parenthesis) in section VIII corresponding to the site activities identified below:

✓ A. Storage and/or Treatment
   1. Containers (I)
   2. Tanks (J)
   3. Surface Impoundments (K)
   4. Waste Piles (L)

___ B. Land Treatment (M)

___ C. Landfills (N)

___ D. Incineration and/or Thermal Treatment (O and P)

✓ E. Chemical, Physical, and Biological Treatment (Q)

Note: If facility is also a generator or transporter of hazardous waste complete sections IX and X of this form as appropriate.

III. GENERAL FACILITY STANDARDS:
(Part 265 Subpart B)

	Yes	No	NI*	Remark
(A) Has the Regional Administrator been notified regarding:				
1. Receipt of hazardous waste from a foreign source?	—	✓	—	
2. Facility expansion?	—	✓	—	
(B) General Waste Analysis:				
1. Has the owner or operator obtained a detailed chemical and physical analysis of the waste?	✓	—	—	
2. Does the owner or operator have a detailed waste analysis plan on file at the facility?	✓	—	—	
3. Does the waste analysis plan specify procedures for inspection and analysis of each movement of hazardous waste from off-site?	—	—	NA	no off-site movement
(C) Security - Do security measures include: (if applicable)				
1. 24-Hour surveillance?	✓	—	—	Plant Security
2. Artificial or natural barrier around facility?	✓	—	—	Plant fence
3. Controlled entry?	✓	—	—	Plant Security
4. Danger sign(s) at entrance?	✓	—	—	
(D) Do Owner or Operator Inspections Include:				
1. Records of malfunctions?	✓	—	—	
2. Records of operator error?	✓	—	—	
3. Records of discharges?	✓	—	—	

*Not Inspected

	Yes	No	NI*	Remarks
4. Inspection schedule?	✓			24 hour drum cleaning monthly routine
5. Safety, emergency equipment?	✓			done by plant utility
6. Security devices?	✓			" " " "
7. Operating and structural devices?	✓			
8. Inspection log?	✓			
(E) Do personnel training records include: (Effective 5/19/81)				
1. Job titles?	✓			
2. Job descriptions?	✓			
3. Description of training?	✓			Given to all plant person
4. Records of training?	✓			
5. Have facility personnel received required training by 5-19-81?	✓			
6. Do new personnel receive required training within six months?	✓			
(F) If required are the following special requirements for ignitable, reactive, or incompatible wastes addressed?				
1. Special handling?			NA	
2. No smoking signs?	✓			
3. Separation and protection from ignition sources?	✓			

*Not Inspected

IV. PREPAREDNESS AND PREVENTION:
(Part 265 Subpart C)

	Yes	No	NI*	Remarks
(A) Maintenance and Operation of Facility: Is there any evidence of fire, explosion, or release of hazardous waste or hazardous waste constituent?		✓		
(B) If required, does the facility have the following equipment:				
1. Internal communications or alarm systems?	✓			Plant system
2. Telephone or 2-way radios at the scene of operations?	✓			P.A. close
3. Portable fire extinguishers, fire control, spill control equipment and decontamination equipment?	✓			

Indicate the volume of water and/or foam available for fire control:

unlimited - pumped from Ohio River

(C) Testing and Maintenance of Emergency Equipment:				
1. Has the owner or operator established testing and maintenance procedures for emergency equipment?	✓			provided by utility for entire plant
2. Is emergency equipment maintained in operable conditions?	✓			
(D) Has owner or operator provided immediate access to internal alarms? (if needed)	✓			

*Not Inspected

(E) Is there adequate aisle space for unobstructed movement? ✓

V. CONTINGENCY PLAN AND EMERGENCY PROCEDURES: (Part 265 Subpart D)

(A) Does the Contingency Plan contain the following information:	Yes	No	NI*	Remarks
1. The actions facility personnel must take to comply with §265.51 and 265.56 in response to fires, explosions, or any unplanned release of hazardous waste? (If the owner has a Spill Prevention, Control, and Countermeasures (SPCC) Plan, he needs only to amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this Part (as applicable.)	✓			
2. Arrangements agreed by local police departments, fire departments hospitals, contractors, and State and local emergency response teams to coordinate emergency services pursuant to §265.37?		✓		coordination at plant by plant personnel
3. Names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinators?	✓			
4. A list of all emergency equipment at the facility which includes the location and physical description of each item on the list and a brief outline of its capabilities?	✓			
5. An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary? (This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes?)	✓			

*Not Inspected

V. CONTINGENCY PLAN AND EMERGENCY PROCEDURES - Continued

	Yes	No	NI*	Remarks
(B) Are copies of the Contingency Plan available at site and local emergency organizations?	✓			(not to locals)
(C) Emergency Coordinator				
1. Is the facility Emergency Coordinator identified?	✓			
2. Is coordinator familiar with all aspects of site operation and emergency procedures?	✓			
3. Does the Emergency Coordinator have the authority to carry out the Contingency Plan?	✓			thru Plant Mngr.
Emergency Procedures				
If an emergency situation has occurred at this facility, has the Emergency Coordinator followed the emergency procedures listed in 265.56?			NA	no situations

VI. MANIFEST SYSTEM, RECORDKEEPING, AND REPORTING
(Part 265 Subpart E)

	Yes	No	NI*	Remarks
(A) Use of Manifest System				
1. Does the facility follow the procedures listed in §265.71 for processing each manifest?	✓			
2. Are records of past shipments retained for 3 years?			✓	if necessary - no shipments to date
(B) Does the owner or operator meet requirements regarding manifest discrepancies?			✓	NA - no shipments to date

*Not Inspected

(C) Operating Record

1. Does the owner or operator maintain an operating record as required in 265.73?	✓	—	—	
2. Does the operating record contain the following information:				
**b. The method(s) and date(s) of each waste's treatment, storage, or disposal as required in Appendix I?	✓	—	—	
c. The location and quantity of each hazardous waste within the facility?	✓	—	—	
***d. A map or diagram of each cell or disposal area showing the location and quantity of each hazardous waste? (This information should be cross-referenced to specific manifest number, if waste was accompanied by a manifest.)	✓	—	—	
e. Records and results of all waste analyses, trial tests, monitoring data, and operator inspections?	✓	—	—	boiler cleaning waste only
f. Reports detailing all incidents that required implementation of the Contingency Plan?	—	—	✓	NA - no incidents to date
g. All closure and post closure costs as applicable? (Effective 5-19-81)	✓	—	—	post closure not applic.

** See page 33252 of the May 19, 1980, Federal Register.

*** Only applies to disposal facilities

*Not Inspected

VII. CLOSURE AND POST CLOSURE
(Part 265 Subpart G)

	Yes	No	NI*	Remarks
(A) Closure and Post Closure				
1. Is the facility closure plan available for inspection by May 19, 1981?	✓			
2. Has this plan been submitted to the Regional Administrator		✓		Not required
3. Has closure begun?		✓		
4. Is closure estimate available by May 19, 1981?	✓			
(B) Post closure care and use of property				
Has the owner or operator supplied a post closure monitoring plan? (effective by May 19, 1981)			NA	no disposal

VIII. FACILITY STANDARDS
(Part 265, Subparts I thru R)

I
USE AND MANAGEMENT OF CONTAINERS

Facility Name: _____ Date of Inspection: _____

	Yes	No	NI*	Remarks
1. Are containers in good condition?	✓			
2. Are containers compatible with waste in them?	✓			DOT approved
3. Are containers stored closed?	✓			
4. Are containers managed to prevent leaks?	✓			
5. Are containers inspected weekly for leaks and defects?		✓		every week or two
6. Are ignitable & reactive wastes stored at least 15 meters (50 feet) from the facility property line? (Indicate if waste is ignitable or reactive.)	✓			

	Yes	NI*	Remarks
7. Are incompatible wastes stored in separate containers? (If not, the provisions of 40 CFR 265.17(b) apply.)		NA	
8. Are containers of incompatible waste separated or protected from each other by physical barriers or sufficient distance?		NA	

J
TANKS

Facility Name: _____ Date of Inspection: _____

1. Are tanks used to store only those wastes which will not cause corrosion, leakage or premature failure of the tank?				
2. Do uncovered tanks have at least 60 cm (2 feet) of freeboard, or dikes or other containment structures?				
3. Do continuous feed systems have a waste-feed cutoff?				
4. Are waste analyses done before the tanks are used to store a substantially different waste than before?				
5. Are required daily and weekly inspections done?				
6. Are reactive & ignitable wastes in tanks protected or rendered non-reactive or non-ignitable? Indicate if waste is ignitable or reactive. (If waste is rendered non-reactive or non-ignitable, see treatment requirements.)				
7. Are incompatible wastes stored in separate tanks? (If not, the provisions of 40 CFR 265.17(b) apply.)				

*Not Inspected

	Yes	No	NI*	Remarks

8. Has the owner or operator observed the National Fire Protection Association's buffer zone requirements for tanks containing ignitable or reactive wastes?

   Tank capacity: _____ gallons

   Tank diameter: _____ feet

   Distance of tank from property line _____ feet

   (See table 2 - 1 through 2 - 6 of NFPA's "Flammable and Combustible Liquids Code - 1977" to determine compliance.)

K
SURFACE IMPOUNDMENTS

Facility Name: _____ Date of Inspection: _____

	Yes	No	NI*	Remarks
1. Do surface impoundments have at least 60 cm (2 feet) of freeboard?	✓			
2. Do earthen dikes have protective covers?	✓			use bottom ash have had dike slump
3. Are waste analyses done when the impoundment is used to store a substantially different waste than before?			NA	
4. Is the freeboard level inspected at least daily?	✓			during metal cleaning
5. Are the dikes inspected weekly for evidence of leaks or deterioration?		✓		monthly
6. Are reactive & ignitable wastes rendered non-reactive or non-ignitable before storage in a surface impoundment? (If waste is rendered non-reactive or non-ignitable, see treatment requirements.)			NA	/
7. Are incompatible wastes stored in different impoundments? (If not, the provisions of 40 CFR 265.17(b) apply.)			NA	

L

WASTE PILES

Facility Name: _____ Date of Inspection: _____

	Yes	No	NI*	Remarks
1. Are waste piles covered or protected from dispersal by wind?	___	___	___	_____
2. Is each in-coming movement of waste analyzed before being added to the waste pile?	___	___	___	_____
3. Are leachate, run-off, and run-on controlled as per the requirements of 265.258? (The effective date of this provision is Nov. 19, 1981.)	___	___	___	_____
4. Are reactive & ignitable wastes rendered non-reactive or non-ignitable before storage in a pile? Indicate if waste is ignitable or reactive. (If waste is rendered non-reactive or non-ignitable, see treatment requirements.)	___	___	___	_____
5. Are piles of reactive or ignitable waste protected from materials or conditions that might cause them to ignite or react?	___	___	___	_____
6. Are incompatible wastes stored in different piles? (If not, the provisions of 40 CFR 265.17(b) apply.)	___	___	___	_____
7. Are piles of imcompatible waste protected by barriers or distance from other waste?	___	___	___	_____

*Not Inspected

M

LAND TREATMENT

Facility Name: _____ Date of Inspection: _____

1. Is treated hazardous waste capable of biological or chemical degradation? ___ ___ ___ _____

2. Are run-off and run-on diverted from the facility or collected? (Effective date: November 19, 1981)? ___ ___ ___ _____

3. Is waste analyzed according to 265.273? ___ ___ ___ _____

4. If food chain crops are grown at the facility, has the owner or operator addressed the requirements of 265.276? ___ ___ ___ _____

5. Is an unsaturated zone monitoring plan designed and implemented to detect the vertical migration of hazardous waste and provide information on the background concentrations of the hazardous waste available? ___ ___ ___ _____

6. Does the unsaturated zone monitoring plan address the minimum information specified in 265.278? ___ ___ ___ _____

7. Are records kept regarding application dates and rates, quantities, and locations, of all hazardous waste placed in the facility? ___ ___ ___ _____

8. Are the special requirements fulfilled regarding land treatment of ignitable or reactive wastes? (Indicate if waste is ignitable or reactive.) ___ ___ ___ _____

9. Are incompatible wastes land treated? (If yes, 265.17(b) applies) ___ ___ ___ _____

N

LANDFILLS

Facility Name: _____ Date of Inspection: _____

	Yes	No	NI*	Remarks
(A) General Operating Requirements Does the facility provide the following:				
**1. Diversion of run-on away from active portions of the fill?				
**2. Collection of run-off from active portions of the fill?				
**3. Is collected run off treated?				
4. Control of wind dispersal of hazardous waste?				
(**Effective 11-19-81)				
(B) Surveying and Recordkeeping Does the Operating Record Include:				
1. A map showing the exact location and dimensions of each cell?				
2. The contents of each cell and the location of each hazardous waste type withing each cell?				
(C) Closure and Post-Closure				
1. Is the Closure Plan available for inspection by 5-19-81?				
2. Has this plan been submitted to the Regional Administrator?				
3. Has closure begun?				
4. Is closure cost estimate available by 5-19-81?				
(D) Special requirements for ignitable or reactive waste				
Are ignitable or reactive waste treated so the resulting mixture is no longer ignitable or reactive?				

	Yes	No	NI*	Remarks
(If waste is rendered non-reactive or non-ignitable see treatment requirements)				
If not, the provisions of 40 CFR 265.17(b) apply.				
(E) Special Requirements for Incompatible Wastes.				
Does the owner or operator dispose of incompatible wastes in separate cells?				
If not, the provisions of 40 CFR 265.17(b) apply.				
(F) Special requirements for liquid waste (effective 11-19-81)				
1. Are bulk or non-containerized liquids placed in the landfill?				
2. Does the landfill have a chemically and physically resistant liner system?				
3. Does the landfill have a functional leachate collection system?				
4. Are free liquids stabilized prior to or immediately after placement in the landfill?				
(G) Special requirements for Containers (effective 11-19-81)				
Are empty containers crushed flat, shredded, or similarly reduced in volume before being buried beneath the surface of the landfill?				

Not Inspected

(A) Facility Name: _____

(B) Date of Inspection: _____

I. Determination of Steady State

A. Type of unit (i.e., type of incinerator or thermal treatment): _____

_____

B. Components and steady state condition:

		**** Was this component at SS prior to adding waste?			
	Component	Yes	No	NI*	Remarks
1.	_____	___	___	___	_____
2.	_____	___	___	___	_____
3.	_____	___	___	___	_____
4.	_____	___	___	___	_____
5.	_____	___	___	___	_____

II. Waste Analysis

A. Minimum requirements, for wastes not previously burned/treated.

	1. Required analyses; has an analysis been performed for the following?	Yes	No	NI*	Remarks
a.	Heating value	___	___	___	_____
b.	Halogen content	___	___	___	_____
c.	Sulfur content	___	___	___	_____

*Not Inspected

	Yes	No	NI*	Remarks
2. Has documented or written data been substituted for analysis of either:				
a. Lead?	___	___	___	_____
b. Mercury?	___	___	___	_____

B. List other parameters for which the waste is tested to enable owner or operator to establis steady state or determine the types of pollutants which may be emitted. (Note in Remarks any which you feel should be tested.)

		Remarks
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

III. Monitoring and Inspections

	Yes	No	NI*	Remarks
A. Are combustion/emission control instruments monitored at least every 15 minutes?	___	___	___	_____
B. Is steady state maintained or corrections attempted?	___	___	___	_____
C. Is stack plume observed at least hourly for normal color and opacity?	___	___	___	_____
D. Did any stack observations made by owner or operator show a plume different than normal?**	___	___	___	_____
E. If yes to D above, were corrections made to return emissions to normal appearance?**	___	___	___	_____
F. Are the complete unit and associated equipment inspected daily for leaks, spills, and fugitive emissions?	___	___	___	_____
G. Are emergency shutdown controls and system alarms checked daily for proper operation?	___	___	___	_____

*Not Inspected
**Specify in Remarks for what period of time this was checked.

IV. Open Burning

A. Only complete this part if the facility open burns hazardous waste.

	Yes	No	NI*	Remarks
1. Does this facility burn only waste explosives? (A No answer means other hazardous waste is open-burned.)				
2. If this facility open-burns waste explosives, does it burn the waste at a distance greater than or equal to the minimum specified distance (below)				

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others	
0 to 100.....	204 m	670 ft
101 to 1,000.....	380 m	1,250 ft
1,001 to 10,000.....	530 m	1,730 ft
10,0001 to 30,000.....	690 m	2,260 ft

Q

CHEMICAL, PHYSICAL and BIOLOGICAL TREATMENT

Facility Name: _____

Date of Inspection: _____

	Yes	No	NI*	Remarks
1. Is equipment used to treat only those wastes which will not cause leakage, corrosion, or premature failure?				
2. Is a continuously fed system equipped with a means of hazardous waste inflow stoppage or control (e.g., cut-off system?)				

*Not Inspected

	Yes	No	NI*	Remarks
3. Has the owner or operator addressed the waste analysis requirements of 265.402?				
4. Are inspection procedures followed according to 265.403?				
5. Are the special requirements fulfilled for ignitable or reactive wastes?				
6. Are incompatible wastes treated? (If yes, 265.17(b) applies.)				

Note: EPA has temporarily suspended the applicability of the requirements of the hazardous waste regulations in 40 CFR Parts 122, 264 and 265 to owners and operators of (1) wastewater treatment tanks that receive, store, and treat wastewaters that are hazardous waste or that generate, store or treat a wastewater treatment sludge which is a hazardous waste where such wastewaters are subject to regulation under Sections 402 or 307(b) of the Clean Water Act (33 U.S.C. 1251 et seq.) and (2) neutralization tanks, transport vehicles, vessels, or containers which neutralize wastes which are hazardous only because they exhibit the corrosivity characteristic under 40 CFR §261.22 or are listed as hazardous wastes in Subpart D of 40 CFR Part 261 only for this reason.

IX

Complete this section if the owner or operator of a TSD facility also generates hazardous waste that is subsequently shipped off-site for treatment, storage, or disposal.

1. MANIFEST REQUIREMENTS

	Yes	No	NI*	Remarks
(A) Does the operator have copies of the manifest available for review?	✓			
(B) Do the manifest forms reviewed contain the following information: (If possible, make copies of, or record information from, manifest(s) that do not contain the critical elements)				
1. Manifest document number?	✓			
2. Name, mailing address, telephone number, and EPA ID Number of Generator	✓			

	Yes	No	NI*	Remarks
3. Name and EPA ID Number of Transporter(s)?	✓			
4. Name, address, and EPA ID Number of Designated permitted facility and alternate facility?	✓			
5. The description of the waste(s) (DOT shipping name, DOT hazard class, DOT identification number)?	✓			
6. The total quantity of waste(s) and the type and number of containers loaded?	✓			
7. Required certification?	✓			
8. Required signatures?	✓			
(C) Does the owner or operator submit exception reports when needed?	✓			if necessary

2. PRE-TRANSPORT REQUIREMENTS

No transportation activity at this time

(A) Is waste packaged in accordance with DOT Regulations? (Required prior to movement of hazardous waste off-site)	✓			if ever transported
(B) Are waste packages marked and labeled in accordance with DOT regulations concerning hazardous waste materials? (Required to movement of hazardous waste off-site)	✓			"
(C) If required, are placards available to transporters of hazardous waste?	✓			"

Omit Section 3 if the facility has interim status and its Part A permit application describes storage

3. On Site Accumulation

	Yes	No	NI*	Remarks
1. Are containers marked with start of accumulation date?				
2. Are the containers of hazardous waste removed from installation before they can accumulate for more than 90 days?				
3. Are wastes stored in containers managed in accordance with 40 CFR Part 265.174 and 265.176 (weekly inspections of containers, containers holding ignitable or reactive wastes located at least 15 meters (50 Feet) from facility's property line?				
4. If wastes are stored in tanks, are the tanks managed according to the following requirements?				
a. Are tanks used to store only those wastes which will not cause corrosion leakage or premature failure of the tank?				
b. Do uncovered tanks have at least 60 cm (2 feet) of freeboard, dikes, or other containment structures?				
c. Do continuous feed systems have a waste-feed cutoff?				
d. Are required daily and weekly inspections done?				
e. Are reactive & ignitable wastes in tanks protected or rendered non-reactive or non-ignitable? (If waste is rendered non-reactive or non-ignitable, see treatment requirements?				
f. Are incompatible wastes stored in separate tanks? (If not, the provisions of 40 CFR §265.17(b) apply)				

*Not Inspected

VI. RECORDKEEPING and REPORTING
(Part 262, Subpart D)

	Yes	No	NI*	Remarks
(A) Are Manifests, Annual Reports, Exception Reports, and all test results and analyses retained for at least three years?	✓			
(B) Has the generator submitted Annual Reports and Exception Reports as required?			✓	not required to do

VII. INTERNATIONAL SHIPMENTS
(Part 262, Subpart E)

	Yes	No	NI*	Remarks
Has the installation imported or exported Hazardous Waste?		✓		

(If answered Yes, complete the following as applicable.)

	Yes	No	NI*	Remarks
1. Exporting Hazardous waste, has a generator:				
a. Notified the Administrator in writing?				
b. Obtained the signature of the foreign consignee confirming delivery of the waste(s) in the foreign country?				
c. Met the Manifest requirements?				
2. Importing Hazardous Waste, has the generator:				
Met the manifest requirements?				

*Not Inspected

X

TRANSPORTER REQUIREMENTS
40 CFR Part 263

Complete this Section if the owner or operator transports hazardous waste.

I. MANIFEST SYSTEM AND RECORDKEEPING
(Subpart B)

	Yes	No	NI*	Remarks
Are copies of the completed manifests or shipping paper(s) available for review and retained for three years?			✓	no manifested waste shipments to date

II. INTERNATIOINAL SHIPMENTS

A. Does the transporter record on the manifest the date the waste left the U.S.?			N/A	
B. Are signed completed manifest(s) on file?			N/A	

V. MISCELLANEOUS

A. Does transporter transport hazardous waste into the U.S. from abroad?			NA	
B. Does the transporter mix hazardous waste of different DOT shipping descriptions by placing them into a single container?			NA	

NOTE: If (A) or (B) were answered "Yes" then the Transporter is also a Generator and must comply with the Generator regulations.

*Not Inspected

REMARKS

Use this section to briefly describe site activities observed at the time of the inspection. Note any possible violations of Interim Status Standards.

Plant activities include storage of degreasing solvents and neutralization of boiler cleaning acid waste.

Storage of used solvent is conducted in two plant oil storage areas. Any returned solvent is placed in specially identified drums. These drums are stored on the plant coal pile upon becoming full. These storage facilities may be excluded from the permit requirements under small quantity sites, 90 day accumulation and recycling provisions.

Boiler cleaning waste are discharge to a lined impoundment for neutralization. Upon manually neutralizing and settling the supernatant is pumped to the ash ponds. Reportedly, the cleaning waste and sludge do not contain toxic levels of chromium. The waste may also be excluded as a waste generated from the combustion of coal.

Co[illegible] hazardous waste activities appear to be excluded, however, they wish to maintain interim [illegible] legal opinions.

Only apparent violation where frequency of inspection of storage area and containment. Reportedly the frequency will be increased accordingly. In addition, it was noted that dikes on impoundment have deteriorated and slipped - occasion, more adequate protecti cover may be required.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

MEMORANDUM

DATE: August 28, 2009
SUBJECT: Determination of Need for an Investigation
Facility Name: Ohio Power Cardinal Plant
EPA ID #: OHD 051 139 202

FROM: Erin K. Jones
Erin K. Jones, Environmental Protection Specialist

TO: George Hamper, Chief, Corrective Action Section 2

I recommend the following determination regarding the need for an investigation:

☐ **CA070NO** Determination of Need for an Investigation-Investigation is not Necessary

Reason for Determination

- ☐ Preliminary Assessment/Visual Site Inspection (PA/VSI) did not recommend any further investigation
- ☐ PA/VSI recommendations do not warrant RRB attention
- ☐ Phase 1 Environmental Site Assessment (ESA) did not recommend further investigation
- ☐ Phase 2 ESA did not recommend further investigation
- ☐ Phase 1/Phase 2 ESA recommendations do not warrant RRB attention
- ☐ Company representative asserts that the site is clean
- ☐ Not subject to corrective action
- ☐ Enrolled in other clean-up program
- ☐ PA/VSI recommendations have been implemented
- ☐ Removal
- ☐ Enrolled Voluntary Remediation Program
- ☐ Completed Voluntary Remediation Program
- ☐ Superfund
- ☐ Superfund No Further Action Decision
- ☐ Superfund Base Relocation and Closure
- ☐ Other_____

☒ **CA070YE** Determination of Need for an Investigation – Investigation is Necessary

Reason for Determination

- ☐ PA/VSI recommends further investigation
- ☐ ESA recommends further investigation
- ☒ Other Information provided by facility invokes further investigation

☐ **No determination can be made** – More Information Needed

☒ Approved ☐ Not Approved

Signed: George Hamper Date: SEP 30 2009

Determination Date: August 28, 2009
Determination: Information provided by facility warrant further investigation

Facility Contact Form (No PA/VSI)

Facility Name: Ohio Power Cardinal Plant

EPA ID#: OHD 051 139 202 Address: 306 County Road 7E

City: Brilliant State: OH

Units Closed: _____ Date: _____

Facility Representative: Tom Webb and Dana Limes Phone#: 614-716-1266

Email Address: twebb@aep.com

Date of phone conversation: August 14, 2009

SQG
TO2 – Surface impoundment (9/27/1984) converted but not yet RCRA Closed
SO1 - 9/27/1984 converted but not yet RCRA Closed

In the 1980's this facility filed as a TSD because it would periodically clean its chemical boilers and discharge the waste into a metal cleaning basin. Dana believes that the T02 was a basin that was put in place in the late 1970's or mid 1980's. It has since been removed and replaced with a 1 million gallon above ground tank that receives the wastewater from these cleaning processes.

About 1 mile west of this facility, as part of the plant operations, there is an active groundwater monitoring program procured through the state which monitors one active surface impoundment that the facility uses as a fly ash impoundment. There are fifty monitoring sites around the active surface impoundment. Also in this area, there is a closed surface impoundment. The monitoring sites are used to determine if there have been any releases from the impoundments. Dana did not say that no releases have occurred; he just said that the releases are monitored for.

This power plant is a joint venture between Cardinal Operating Company and American Electric Power. Ohio Power Company operates unit 1 and Buckeye Power operates units 2 and 3. Each unit has the capacity of approximately 600 megawatts. The property parcels for the entire facility are owned both individually and jointly by any combination of the aforementioned companies.

Y / N Is there known soil or groundwater contamination?
Contaminants: Most likely there is soil and groundwater contamination at the facility

Y / N Has the parcel been split or was there a change in ownership?

Y / [redacted] / ? Was a Phase 1 or Phase 2 report prepared in connection with a sale of the property?
Y / [redacted] Can we have a copy?

[redacted] / N Is the facility currently operating?

- When was the plant built? ___This facility has been a power plant since the early 1970's._____
- What products are/were made?

  This facility has been operating as a coal fired power plant since the early 1970's.

- What chemicals were used in the process?
  -Ingredients: Each power plant uses different things. The comments below are for the Cardinal Plant.

  -Solvents for cleaning products: Safety Kleen parts washer EPA 2000-a high flash point solvent, sometimes the waste comes out as hazardous and other times it does not. Tests are conducted to detect hazardous waste.

  -Solvents for degreasing machinery:

  -Fuels (coal/gasoline/fuel oil): There is 1-2000G UST. This UST was updated in the early 1990's; it has alarms and is double-walled. The facility is getting ready to remove the underground gasoline tank and install an above-ground tank. There are more than 1 million gallons of fuel oil on site. The bulk of it is stored in above ground tanks; the fuel oil is used for unit start up. There are approximately six diesel fuel tanks used to fuel the coal yard equipment. Dana believes these tanks are all above ground.

  [redacted] / N Are there any known spills from electrical equipment containing PCBs?
  In the past 30-years he is sure that there has been a PCB spill. The facility continues to phase out all high concentration PCB equipment. The Cardinal plant is considered PCB free; however, there are still some transformers with detectable levels of PCBs.
  [redacted] / N Have spills always been cleaned up properly?
  Reportable spills get called in and receive an incident number from Ohio EPA. If it is less than a 30-gallon spill the facility cleans it up. In the past there have been reportable sheens on the Ohio River as a result of spills of hydraulic oil and fuel oil.
- What kinds of solid wastes were produced?

  Coal combustion fly ash, coal combustion bottom ash, synthetic gypsum, calcium sulfate. The gypsum is handled dry and has gone into the dry landfill since 2007 when the facility began producing it as a result of retrofitting scrubbers on Units 1 and 2. The fly ash is handled wet and is pumped to the wet impoundment.

  The facility has 20-30 roll off boxes that are used to dispose of miscellaneous waste including paint waste, sand blast, and blasting grit.

- How were solid wastes managed?

Y / N Waste piles Quantity:__1____
Containing: Gypsum, accumulates at plant in a dome before being to taken to dry landfill or loaded onto barges and carried to West Virginia to a wall board plant

Y / N On-site landfill Quantity:____1__
Containing: Gypsum

- How were liquid wastes (such as solvents) managed?
  Y / N Drums
  Containing: Job specific wastes, for example with recent installation of scrubbers facility had DBE, styrene, and MEK waste. It was manifested off site by Veolia.
  Y / N Above-ground tanks Quantity:_____
  Containing:
  Y / N Underground tanks Quantity:_____ How long have they been in use?_____
  What are they made out of: Steel / Cement / Other:_____
  Any known leaks:

  Y / N Underground pipes
  Containing: Some ash slurry lines-most are buried; however parts of the lines are underground. Fuel lines part are above ground and parts are under. Lines associated with gasoline UST; some portion of these lines are underground.

- How were wastewaters managed?
  Y / N Tanks
  Y / N Pits, ponds, or lagoons (surface impoundments)

  Fly ash reservoir 2-fly ash slurry water-150-acre surface impoundment
  Bottom ash pond-at the plant site along the river
  Recycle water pond-this unit has a permitted outfall
  Coal pile runoff-runoff collection basins around the coal pile. Water is pumped to the bottom ash pond system.

OhioEPA
State of Ohio Environmental Protection Agency
Southeast District Office
2195 Front Street
, Ohio 43138-9031
(614) 385-8501
FAX (614) 385-6490

George V. Voinovich
Governor

June 10, 1992

RE: JEFFERSON COUNTY
OHIO POWER-CARDINAL PLANT
FLY ASH CLOSURE
GROUND WATER MONITORING PLAN

Mr. R.E. Wright, P.E.
Environmental Affairs Director
301 Cleveland Avenue, S.W.
P.O. Box 24400
Canton, Ohio 44701

Dear Mr. Wright:

The Division of Drinking and Ground Waters (DDAGW) has reviewed the Hydrogeologic Investigation Report and Ground Water Monitoring Plan, submitted to fulfill special terms and conditions 3B through 3D of Permit to Install (PTI) No. 17-709 issued June 6, 1990. The conditions cover the closure of Fly Ash Reservoir No. 1 disposal site. The Division of Water Pollution Control as a result of the DDAGW review offers the following comments and/or concerns.

HYDROGEOLOGY

The unlined valley fill facility is located in the west branch of Blockhouse Hollow. Fly ash disposal at this site was discontinued in October 1988, and the east branch Blockhouse Hollow is now used as a disposal site. The land surrounding the site consists of abandoned unreclaimed Pittsburgh No. 8 coal surface mines which outcrop at elevation 990 to 1000 feet m.s.l.

The site is underlain by Pennsylvanian Age sedimentary shales, sandstones, limestones, clays and coals.

Two bedrock aquifer systems are identified in the hydro investigation report on the facility. The report indicates the shallow aquifer exists from the surface to the top of a hard shale at 908 to 921 feet m.s.l. and contains the Connelsville sandstone, Summerfield limestone and Bellaire sandstone. The [illegible] elevation 800 to 880 m.s.l. The base of the disposal site rests on the Morgantown Sandstone.

The depth to ground water varies from 7.33 feet (S-5) to 84.75 feet (S-8).

The direction of the shallow ground water flow is not clearly documented. Fifteen wells were installed around the site. The direction of the shallow ground water flow system is depicted as controlled by topography. Borings on the south side, S-1 and S-2, support this and show flow north towards the fill. However, the facility indicates Boring S-7, north of the embankment, is the downgradient shallow monitoring well. Since the area is located in a hollow that has been previously disturbed, and is contiguous to Fly Ash Dam II, limited downgradient locations are available to evaluate the upper, shallow aquifer system. Additionally, the upgradient wells are located near the Pressurized Fluidized Bed Combustion (PFBC) disposal area at the head of the hollow and may be influenced by the PFBC disposal area. Please clearly document the ground water flow direction.

The ground water flow in the Morgantown area is reported to be controlled by regional underground geology of the bedding planes. The flow is shown southeast. The facility indicates two wells surrounding the PFBC disposal area, M-3 and M-4 are the upgradient stations for the Morgantown and all other M-series wells are downgradient. Borings M-1 and M-5 support this. Please clearly define the direction of ground water flow in Morgantown sandstone.

COMMENTS RELATING TO THE GROUND WATER MONITORING PLAN

1. Please submit a smaller drawing showing the location of the monitoring wells and include it in the text of the Ground Water Monitoring Plan. Please clearly show all streams, wells and springs, and seeps within 1000 feet of the disposal site on the drawing (map). Note: The map needs to be drawn to scale.

2. Please describe the method to be used for collecting static water levels and indicate ground water elevations as being measured to the nearest hundredth of a foot.

3. Please revise to indicate wells will be purged three well volumes prior to sample collection unless wells are purged dry. If wells are purged dry, indicate the well will be evacuated once and sampled upon recovery.

4. Please list the type of sample containers to be used and give preservation methods.

5. If samples will be filtered, please state that the test results for both filtered and nonfiltered samples will be submitted. If turbidity is a problem, the wells should be redeveloped. Please note this in the plan.

6. Specific conductance and pH measurements should be collected in the field. Please revise the plan by including the procedures and the forms to be used for recording data. The revised plan also needs to state the exact location and the time the data is collected.

7. Please describe the decontamination and calibration procedures to be used for the field equipment.

8. Please include aluminum, cobalt, copper and nickel in the parameter list.

9. Please list analytical methods, detection limits and lab holding times for all parameters.

10. Please describe chain-of-custody procedures that include standardized tracking and reporting forms to establish field sample custody prior to and during shipment. Please include a chain-of-custody form.

11. Please submit an Assessment Plan Outline capable of determining the following:

    a. Whether or not pollutants from the waste have entered the ground water.

    b. The rate and extent of migration of pollutants from the waste in the ground water.

    c. The concentration of pollutants from the waste in the ground water.

Please revise the Hydrogeologic Investigation Report and Ground Water Monitoring Plan in accordance with our comments and/or concerns and submit two (2) copies of the revised documents to our office as soon as possible. Note: After we receive the revised documents, review them, and find them acceptable, we will send a letter to your company stating our approval of them.

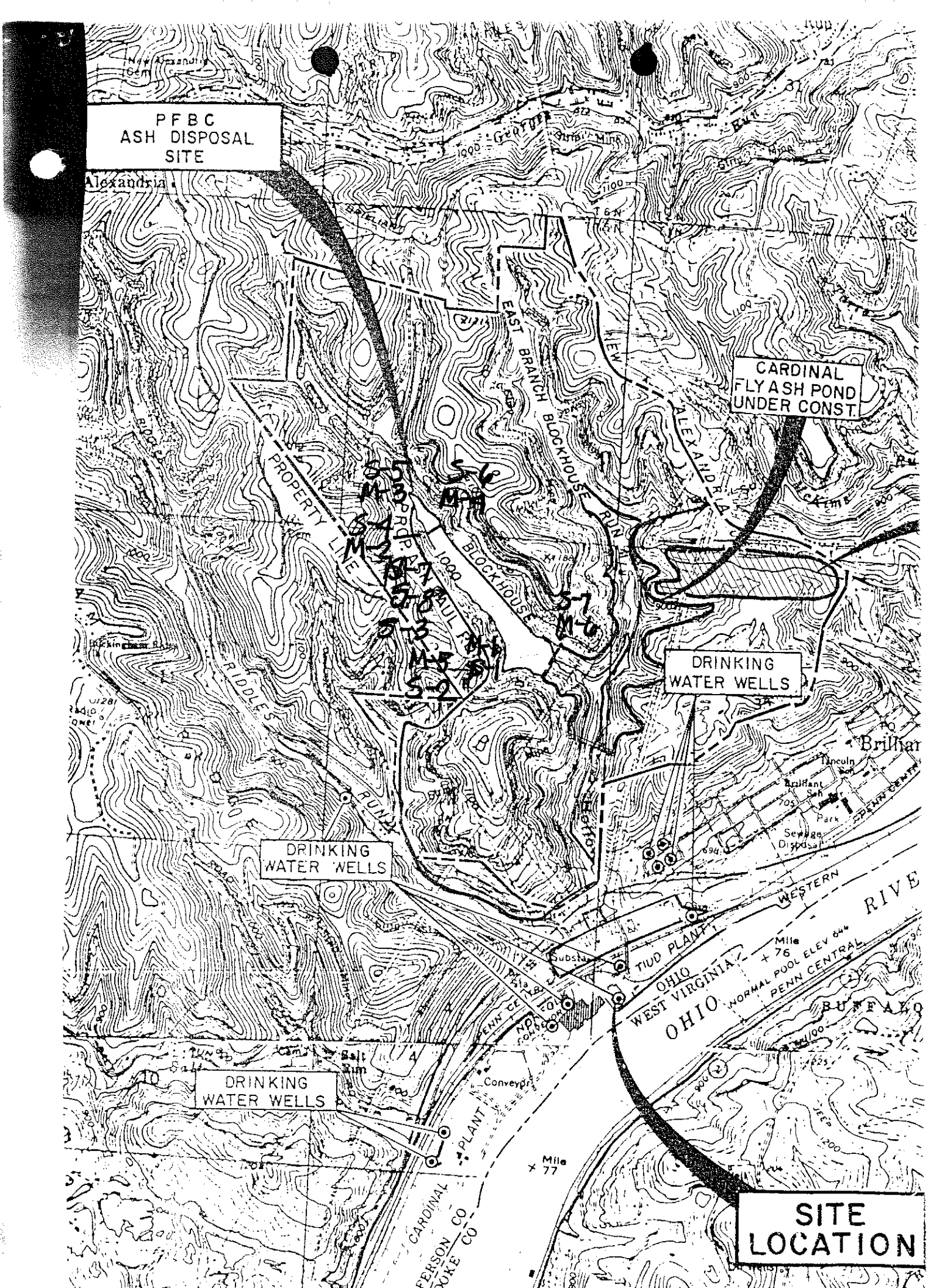
If you have questions, please contact me at my office.

Sincerely,

Ken S. Early

Ken S. Early
District Engineer
Permits Section, DWPC

KSE/jc
cc: Mr. C.J. Strowsky, Environmental Engineer
cc: Mr. E.L. Townley, Plant Manager, Cardinal Operating Plant
cc: Mike Preston, DDAGW, SEDO
cc: Tom Allen, DDAGW, CO


PFBC
ASH DISPOSAL
SITE
Alexandria
CARDINAL
FLY ASH POND
UNDER CONST.
EAST BRANCH BLOCKHOUSE RUN
BLOCKHOUSE RUN
PROPERTY LINE
DRINKING
WATER WELLS
DRINKING
WATER WELLS
DRINKING
WATER WELLS
S-1
S-2
S-3
S-4
S-5
S-6
M-1
M-2
M-3
M-4
M-5
M-6
M-7
M-8
MPA
TIDD PLANT
OHIO
WEST VIRGINIA
OHIO
NORMAL POOL ELEV 644
PENN CENTRAL
Mile
+ 76
Mile
+ 77
CARDINAL
PLANT
SITE
LOCATION